Appendix L
2020 Feasibility Study

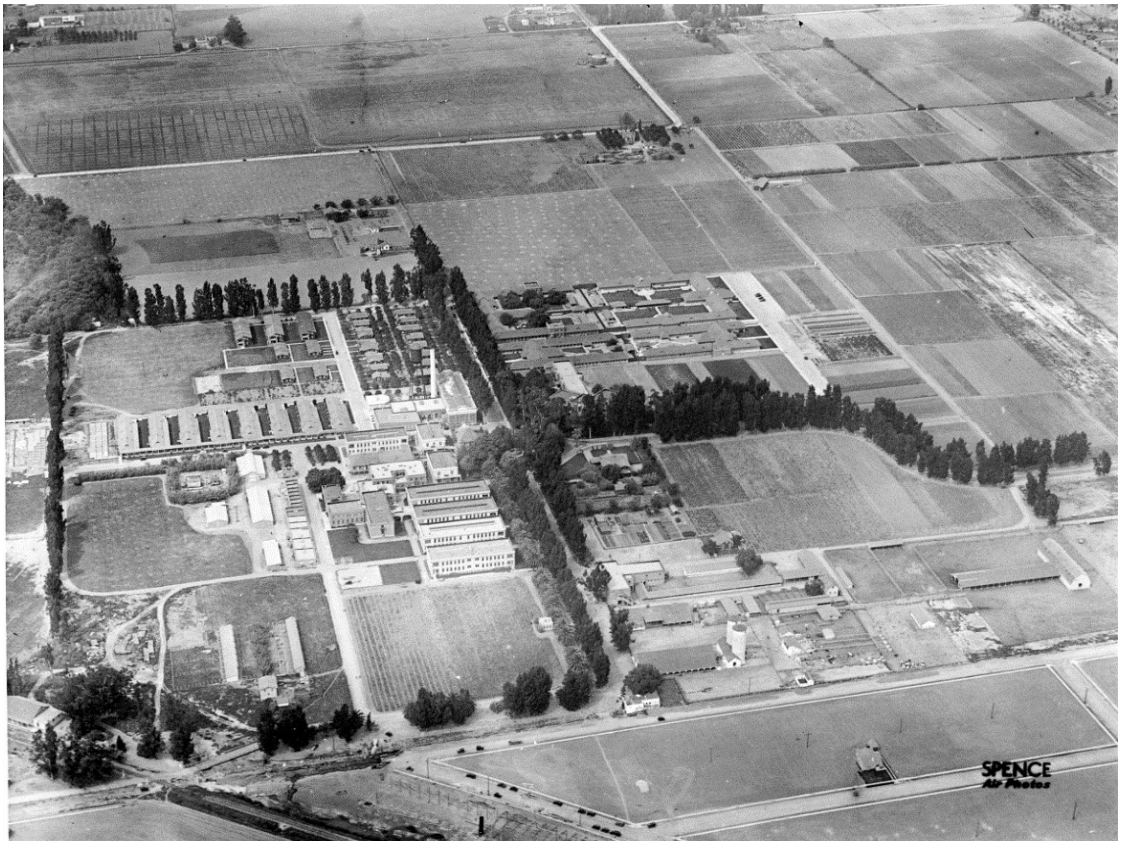
ESA

RANCHO LOS AMIGOS SOUTH CAMPUS,COUNTY OF LOS ANGELES, CITY OF DOWNEY, CALIFORNIA

Focused Feasibility Study

Prepared for
County of Los Angeles
Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803

May 2020



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RANCHO LOS AMIGOS SOUTH CAMPUS,COUNTY OF LOS ANGELES, CITY OF DOWNEY, CALIFORNIA

Focused Feasibility Study

May 2020

Prepared for:
County of Los Angeles
Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803

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Project Location:
Downey, Los Angeles County

South Gate (CA) USGS 7.5-minute Topographic Quad
Township 3 South, Range 12 West, Unsectioned

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TABLE OF CONTENTS

Rancho Los Amigos South Campus – Focused Feasibility Study

Page

Executive Summary **ES-1**

Introduction **1**

Description of Historic District **2**
- Rancho Los Amigos Historic District Description 2
- Statement of Significance for Rancho Los Amigos Historic District 7
- Building Types Associated with Rancho Los Amigos Historic District 9
  - Administration/Staff Buildings 11
  - Patient Wards 12
  - Dining/Social Facilities 17
  - Utilities 19
  - Agricultural/Occupational Therapy Facilities 20
  - Maintenance/Support 22
  - Landscape Features 23
- Integrity Analysis 26
  - Location 27
  - Design 27
  - Workmanship 28
  - Materials 28
  - Setting 29
  - Feeling 29
  - Association 30
  - Summary 30
- Historic District Contributors 31
- Character-Defining Features of the Historic District 32
  - Methodology 32
  - Character-Defining Features Analysis of the Rancho Los Amigos Historic District 56

Reason for Investigation **57**
- Feasibility of Rehabilitation and Adaptive Reuse of Historical Resources 57
- Feasibility of Mothballing Historic Buildings 70

Purpose of the Focused Feasibility Study **71**
- Goals and Objectives 71

Relationship to Previous Investigations **73**
- Previous Surveys and Evaluations 73
- 2018 ESA Historic District Evaluation Report 74
- County Data Center EIR 75

Page

2007- 2009 Sapphos Feasibility Study (also known as the "Tiers 1-4 Feasibility Studies")....76
The Necessity for a Focused Feasibility Study to Inform the Alternatives and Mitigation....77

Scope of the Focused Feasibility Study....78
Study Methods....78
Historical Research....78
Secretary of the Interior's Standards for the Treatment of Historic Properties....79
Technical Reports....79
Architectural Assessment Reports for Rehabilitation/Adaptive Reuse and Mothballing Reports....80

Focused Feasibility Study Data....81
Summary Reports....82
Individual Reports for all Historic District Buildings Considered for Retention....83

Summary Reports....84
Summary of Architectural Assessment Reports....SUMMARY A
Summary of Structural Assessment Reports....SUMMARY B
Summary of Preservation/Adaptive Reuse Cost Plans....SUMMARY C
Summary of Mothballing Reports....SUMMARY D
Summary of Mothballing Cost Plans....SUMMARY E

Individual Studies for Each Building Considered for Potential Rehabilitation/Mothballing
Individually Eligible Buildings
LACO No. 1238 (Casa Consuelo)
Architectural Assessment Report....1238-A
Structural Assessment Report....1238-B
Preservation/Adaptive Reuse Cost Plan....1238-C
Mothballing Report....1238-D
Mothballing Cost Plan....1238-E
LACO No. 1300 (Power Plant and Smoke Stack) and LACO No. 1302 (Shop Laundry and Ice Plant)
Architectural Assessment Report....1300/1302-A
Structural Assessment Report....1300/1302-B
Preservation/Adaptive Reuse Cost Plan....1300/1302-C
Mothballing Report....1300/1302-D
Mothballing Cost Plan....1300/1302-E
LACO No. 1301 (Water Tower)
Architectural Condition Assessment....1301-A
Structural Condition Assessment....1301-B
Preservation/Adaptive Reuse Cost Plan....1301-C
Mothballing Plan....1301-D
Cost Analysis for Mothballing....1301-E
Primary Contributors
LACO No. 1184 (General Ward 30)
Architectural Assessment Report....1184-A
Structural Assessment Report....1184-B
Preservation/Adaptive Reuse Cost Plan....1184-C
Mothballing Report....1184-D

Page

Mothballing Cost Plan 1184-E
LACO No. 1185 (General Ward 40)
Architectural Assessment Report 1185-A
Structural Assessment Report 1185-B
Preservation/Adaptive Reuse Cost Plan 1185-C
Mothballing Report 1185-D
Mothballing Cost Plan 1185-E
LACO No. 1186 (General Ward 50)
Architectural Assessment Report 1186-A
Structural Assessment Report 1186-B
Preservation/Adaptive Reuse Cost Plan 1186-C
Mothballing Report 1186-D
Mothballing Cost Plan 1186-E
LACO No. 1187 (General Ward 60)
Architectural Assessment Report 1187-A
Structural Assessment Report 1187-B
Preservation/Adaptive Reuse Cost Plan 1187-C
Mothballing Report 1187-D
Mothballing Cost Plan 1187-E
LACO No. 1189 (Patient Ward 201)
Architectural Assessment Report 1189-A
Structural Assessment Report 1189-B
Preservation/Adaptive Reuse Cost Plan 1189-C
Mothballing Report 1189-D
Mothballing Cost Plan 1189-E
LACO No. 1190 (Patient Ward 202)
Architectural Assessment Report 1190-A
Structural Assessment Report 1190-B
Preservation/Adaptive Reuse Cost Plan 1190-C
Mothballing Report 1190-D
Mothballing Cost Plan 1190-E
LACO No. 1191 (Patient Ward 203)
Architectural Assessment Report 1191-A
Structural Assessment Report 1191-B
Preservation/Adaptive Reuse Cost Plan 1191-C
Mothballing Report 1191-D
Mothballing Cost Plan 1191-E
LACO No. 1192 (Patient Ward 204)
Architectural Assessment Report 1192-A
Structural Assessment Report 1192-B
Preservation/Adaptive Reuse Cost Plan 1192-C
Mothballing Report 1192-D
Mothballing Cost Plan 1192-E
LACO No. 1203 (Women's Psychiatric Ward)
Architectural Assessment Report 1203-A
Structural Assessment Report 1203-B
Preservation/Adaptive Reuse Cost Plan 1203-C
Mothballing Report 1203-D
Mothballing Cost Plan 1203-E
LACO No. 1205 (Men's Psychiatric Ward)
Architectural Assessment Report 1205-A

Page

Structural Assessment Report 1205-B
Preservation/Adaptive Reuse Cost Plan 1205-C
Mothballing Report 1205-D
Mothballing Cost Plan 1205-E
LACO No. 1207 (Work Preparation Center)
Architectural Assessment Report 1207-A
Structural Assessment Report 1207-B
Preservation/Adaptive Reuse Cost Plan 1207-C
Mothballing Report 1207-D
Mothballing Cost Plan 1207-E
LACO No. 1260 (Bathhouse and Ward)
Architectural Assessment Report 1260-A
Structural Assessment Report 1260-B
Preservation/Adaptive Reuse Cost Plan 1260-C
Mothballing Report 1260-D
Mothballing Cost Plan 1260-E
LACO No. 1261 (Auditorium)
Architectural Assessment Report 1261-A
Structural Assessment Report 1261-B
Preservation/Adaptive Reuse Cost Plan 1261-C
Mothballing Report 1261-D
Mothballing Cost Plan 1261-E
LACO No. 1262 (Dining Room/Kitchen)
Architectural Assessment Report 1262-A
Structural Assessment Report 1262-B
Preservation/Adaptive Reuse Cost Plan 1262-C
Mothballing Report 1262-D
Mothballing Cost Plan 1262-E
LACO No. 1263 (Dining Room/Kitchen/Commissary)
Architectural Assessment Report 1263-A
Structural Assessment Report 1263-B
Preservation/Adaptive Reuse Cost Plan 1263-C
Mothballing Report 1263-D
Mothballing Cost Plan 1263-E
LACO No. 1275 (Workshop)
Architectural Assessment Report 1275-A
Structural Assessment Report 1275-B
Preservation/Adaptive Reuse Cost Plan 1275-C
Mothballing Report 1275-D
Mothballing Cost Plan 1275-E
Secondary Contributors
LACO No. 1121 (Staff Cottage)
Architectural Assessment Report 1121-A
Structural Assessment Report 1121-B
Preservation/Adaptive Reuse Cost Plan 1121-C
Mothballing Report 1121-D
Mothballing Cost Plan 1121-E
LACO No. 1123 (Staff Cottage)
Architectural Assessment Report 1123-A
Structural Assessment Report 1123-B
Preservation/Adaptive Reuse Cost Plan 1123-C

Page

Mothballing Report 1123-D
Mothballing Cost Plan 1123-E
LACO No. 1188 (General Ward 70)
Architectural Assessment Report 1188-A
Structural Assessment Report 1188-B
Preservation/Adaptive Reuse Cost Plan 1188-C
Mothballing Report 1188-D
Mothballing Cost Plan 1188-E
LACO No. 1193 (Patient Ward 205)
Architectural Assessment Report 1193-A
Structural Assessment Report 1193-B
Preservation/Adaptive Reuse Cost Plan 1193-C
Mothballing Report 1193-D
Mothballing Cost Plan 1193-E
LACO No. 1194 (Patient Ward 206)
Architectural Assessment Report 1194-A
Structural Assessment Report 1194-B
Preservation/Adaptive Reuse Cost Plan 1194-C
Mothballing Report 1194-D
Mothballing Cost Plan 1194-E
LACO No. 1195 (Patient Ward 207)
Architectural Assessment Report 1195-A
Structural Assessment Report 1195-B
Preservtation/Adaptive Reuse Cost Plan 1195-C
Mothballing Report 1195-D
Mothballing Cost Plan 1195-E
LACO No. 1196 (Patient Ward 208)
Architectural Assessment Report 1196-A
Structural Assessment Report 1196-B
Preservation/Adaptive Reuse Cost Plan 1196-C
Mothballing Report 1196-D
Mothballing Cost Plan 1196-E
LACO No. 1197 (Patient Ward 209)
Architectural Assessment Report 1197-A
Structural Assessment Report 1197-B
Preservation/Adaptive Reuse Cost Plan 1197-C
Mothballing Report 1197-D
Mothballing Cost Plan 1197-E
LACO No. 1202 (Women's Psychiatric Ward)
Architectural Assessment Report 1202-A
Structural Assessment Report 1202-B
Preservation/Adaptive Reuse Cost Plan 1202-C
Mothballing Report 1202-D
Mothballing Cost Plan 1202-E
LACO No. 1204 (Men's Psychiatric Ward)
Architectural Assessment Report 1204-A
Structural Assessment Report 1204-B
Preservation/Adaptive Reuse Cost Plan 1204-C
Mothballing Report 1204-D
Mothballing Cost Plan 1204-E
LACO No. 1254 (Chapel - Computer Center)

Page

Architectural Assessment Report 1254-A
Structural Assessment Report 1254-B
Preservation/Adaptive Reuse Cost Plan 1254-C
Mothballing Report 1254-D
Mothballing Cost Plan 1254-E
LACO No. 1264 (Bonita Hall)
Architectural Assessment Report 1264-A
Structural Assessment Report 1264-B
Rehabilitation/Adaptive Reuse Cost Plan 1264-C
Mothballing Report 1264-D
Mothballing Cost Plan 1264-E
LACO No. 1265 (Shelter)
Architectural Assessment Report 1265-A
Structural Assessment Report 1265-B
Preservation/Adaptive Reuse Cost Plan 1265-C
Mothballing Report 1265-D
Mothballing Cost Plan 1265-E
LACO No. 1276 (Lock Shop)
Architectural Assessment Report 1276-A
Structural Assessment Report 1276-B
Preservation/Adaptive Reuse Cost Plan 1276-C
Mothballing Report 1276-D
Mothballing Cost Plan 1276-E
LACO No. 1283 (Trunk Storage)
Architectural Assessment Report 1283-A
Structural Assessment Report 1283-B
Preservation/Adaptive Reuse Cost Plan 1283-C
Mothballing Report 1283-D
Mothballing Cost Plan 1283-E
LACO No. 1295 (Kitchen and Dining Building)
Architectural Assessment Report 1295-A
Structural Assessment Report 1295-B
Preservation/Adaptive Reuse Cost Plan 1295-C
Mothballing Report 1295-D
Mothballing Cost Plan 1295-E
LACO No. 1335 (Brooder House/Vivarium Annex)
Architectural Assessment Report 1335-A
Structural Assessment Report 1335-B
Preservation/Adaptive Reuse Cost Plan 1335-C
Mothballing Report 1335-D
Mothballing Cost Plan 1335-E
Bibliography 2358

Appendices

A. Professional Qualifications
B. Character-Defining Features Analysis Memorandum (June 20,2018)
C. The National Park Service's *Preservation Brief #31: Mothballing Historic Buildings*
D. Article by Thomas E. Solon entitled "Security Panels for the Foster-Armstrong House," as Referenced by SMS Architects in Mothballing Reports for Individual Buildings on RLA South Campus

Page

Figures

Figure 1 Regional Location 3
Figure 2 RLA South Campus Location....4
Figure 3 Historic District Boundary....5
Figure 4 Building Types Map....10
Figure 5 Primary elevation of the Administration Building (LACO No. 1100), View west....11
Figure 6 West elevation of a staff cottage (LACO No. 1121), View Southeast....12
Figure 7 East Elevation of the Men's Ward (LACO No. 1204), Fire Damage Visible on Roof, View Southwest....13
Figure 8 East and North Elevations of a Patient Ward (LACO No. 1184), View Southwest....14
Figure 9 East Elevation of the women's patient ward, Casa Consuelo (LACO No. 1238), View West....15
Figure 10 South elevation of one of the cottage-style Patient Wards (LACO No. 1192), View North....16
Figure 11 Overview of cottage-style Patient Ward grouping (LACO No. 1189 and 1190), View Northwest....16
Figure 12 East and South Elevations of the Dining Room, Kitchen and Staff Room (LACO No. 1262), View Northwest....17
Figure 13 East Elevation of the Auditorium (LACO No. 1261), View West....18
Figure 14 East and South Elevations of Bonita Hall (LACO No. 1264), View North....18
Figure 15 East and South Elevations of the Shop, Laundry, and Ice Plant (LACO No. 1302), View Northeast....19
Figure 16 East and South Elevations of the Power Plant (LACO No. 1300), View Northwest....20
Figure 17 West Elevation of the Work Preparation Center (LACO No. 1207), View East....21
Figure 18 West and North Elevations of the Trunk Storage (LACO No. 1283), View East....21
Figure 19 East and South Elevations of the Workshop (LACO No. 1275), View Northwest....22
Figure 20 East Elevation of the Landscape office (LACO No. 1357), View West....23
Figure 21 The Moreton Bay Fig Tree, View Southeast....24
Figure 22 Canopy near the Auditorium (LACO No. 1265), View Southwest....24
Figure 23 Recommended Historic District Boundary....25
Figure 24 Rancho Los Amigos Site Plan....52
Figure 25 Contributors and Non-Contributors Map....53
Figure 26 Building Types Map....55
Figure 27 Historic District Character-Defining Features....58

Tables

Table 1 Building Types Associated with Rancho Los Amigos....9
Table 2 Summary of Integrity for the Rancho Los Amigos Historic District....31
Table 3 Eligibility of Contributors (1888-1952)....33
Table 4 Character-Defining Features of the Rancho Los Amigos Historic District....59
Table 5 Data Assessment Summary....77

EXECUTIVE SUMMARY

Rancho Los Amigos South Campus Focused Feasibility Study

Environmental Science Associates (ESA) has been retained by the County of Los Angeles, Department of Public Works (County or DPW) to prepare a Focused Feasibility Study (Study) for the Rancho Los Amigos South Campus (RLA South Campus or subject property). The 74-acre County-owned South Campus is located in the south-westernmost part of the City of Downey (City) on Assessor Parcel Number (APN) 6245-016-934. The impetus for preparing the Focused Feasibility Study is the development of a proposed Project that would construct three new County administrative buildings within a 35-acre Development Area on the 74-acre RLA South Campus (Project Site). These buildings include the Internal Services Department (ISD) Headquarters, Probation Headquarters, and the County Office Building, totaling up to approximately 650,000 square feet. As a result of the proposed Project, the existing buildings in the Development Area would be demolished to make way for the new County buildings. Building demolition, infrastructure construction, and remediation would take place on the remainder of the Project Site, outside of the Development Area. The Focused Feasibility Study considers the current Project's objectives to provide new County office facilities and associated infrastructure and considers whether these Project objectives could reasonably be met by rehabilitating and adaptively reusing the existing historic structures on the Project Site rather than demolishing them and building new facilities for the Project. The Focused Feasibility Study also considers whether the existing historic buildings could be retained and preserved by mothballing the buildings for future use.

The Project Site comprises a portion of the Rancho Los Amigos Historic District (Historic District), which was determined eligible for listing in the National Register of Historic Places (National Register) in 1995 by a consensus determination through the Section 106 Process. The National Register was established as part of the National Historic Preservation Act of 1966 (NHPA) and is overseen by the National Park Service. The National Register is the official list of this country's historic buildings, districts, sites, structures, and objects that are worthy of preservation. A National Register historic district is a historic property classification that recognizes a group of buildings, properties, or sites as historically or architecturally significant. Section 106 of the NHPA requires Federal agencies to consider the effects of Federal undertakings (project, activity, or program funded, permitted, licensed or approved by a Federal Agency) on historic properties that may take place either on or off federally controlled property. There is currently no federal nexus for the proposed Project which is not subject to Section 106 review.

Because the Historic District has been determined eligible for the National Register, it is automatically listed on the California Register of Historical Resources (California Register) and is considered a designated historical resource for the purposes of the California Environmental Quality Act (CEQA). Therefore, any proposed project that has the potential to impact the Historic District or the individual historical resources must study alternatives to the proposed project through the preparation of an Environmental Impact Report (EIR). Here, it is worth noting that the Historic District is a single entity as listed on the California Register; however, it is comprised of many different buildings that are considered to be either contributing or non-contributing features to the historic significance of the district as a whole. Those buildings that are considered contributors to the district—including buildings that are potentially individually eligible to the National Register, themselves—also have status as historical resources under CEQA. However, some buildings within the district have greater importance than do others as based upon their ability to convey the significance of the district resource as a whole.

This Focused Feasibility Study builds off of and updates a previous Feasibility Study that was prepared for the subject property in 2007-2009 by Sapphos Environmental, Inc. (2007-2009 Sapphos Feasibility Study). The 2007-2009 Sapphos Feasibility Study provided an in-depth campus-wide analysis to inform an environmental impact report (EIR) for a County Data Center that was being analyzed at that time. However, the County Data Center project never materialized. Currently, a new Project for the RLA South Campus Project (the Project) is being proposed that is analyzed in the Rancho Los Amigos South Campus Project Environmental Impact Report (EIR) being prepared by the County of Los Angeles. While some of the data on the historic district resources and individual buildings in the previously prepared in the 2007-2009 Sapphos Feasibility Study is useful, the data is generally outdated and was developed for a different project with different objectives than the current Project. Most notably, the economic data presented in the previous feasibility is outdated as it is more than ten years old. Other components of the previous feasibility study are out of date because the existing conditions have changed since the previous study. Therefore, the County has enlisted ESA to prepare a new Focused Feasibility Study for the current Project and Alternatives analyses. The Focused Feasibility Study relies upon applicable information contained in the previous 2007-2009 Sapphos Feasibility Study, and updates the applicable data, as well as incorporates additional studies prepared for the current Project.

The existing conditions of the Historic District were documented in a 2017-2018 survey update and the results are provided in the June 2018 *Historic District Evaluation Report* (DEIR Appendix D-1) and the June 20, 2018 *Character-Defining Features Analysis Memorandum* (CDF analysis) (DEIR Appendix K-1 and Appendix B of this study). Since it has been over a decade since the previous survey, the purpose of the 2017-2018 Historic District Evaluation Report and 2018 CDF analysis was to understand the current integrity and significance of the existing historical resources and to identify their physical characteristics that convey their historic significance. These studies were needed to inform the analysis of historical resources in the EIR. As will be described in greater detail later in this Study, the CDF analysis (provided in Appendix B) assigned a ranking system to the existing contributing resources of the Historic District based upon the several factors including integrity and significance determined in the 2017-2018 Historic District Evaluation Report, visual prominence within the district, date of construction, and

architectural merit. Based upon these factors, all buildings within the Historic District—each of which has a Los Angeles County Building Number (LACO No.)—were assigned one of five rankings, as follows:

1. Individually Eligible (to the National Register and eligible as a Primary district contributor)
2. Primary Contributor (ineligible individually to the National Register, but eligible as a district contributor which is essential for maintaining district significance as the best example of a building type that preserves the highest level of integrity and significance)
3. Secondary Contributor (ineligible individually to the National Register, but eligible as a district contributor which strongly supports district significance as an additional example of a building type that strongly conveys the functional and spatial relationships of the district)
4. Tertiary Contributor (ineligible individually to the National Register, but eligible as a district contributor which provides a contextual setting for the district from the period of significance but is not essential for maintaining district significance)
5. Non-Contributor (ineligible individually, ineligible as a district contributor, does not contribute to the contextual setting for the district from the period of significance due to construction date or lack of integrity).

Building upon the 2007-2009 Sapphos Feasibility Study, the June 2018 Historic District Evaluation Report, and the June 20, 2018 CDF Analysis, this Focused Feasibility Study updates the available data on the structural and architectural conditions of existing resources and considers the upgrades that would be required to either rehabilitate or mothball the Individually Eligible, Primary Contributors and Secondary Contributors within the Historic District. Tertiary Contributors were not included in the Focused Feasibility Study because they do not strongly convey district significance, are not centrally located or visually prominent, and are generally smaller in size than the Primary or Secondary Contributors, making them less favorable candidates for adaptive reuse from a feasibility perspective. Architectural and structural feasibility reports are prepared for each of the Primary and Secondary Contributors. Using the architectural and structural reports as a basis for analysis, updated costs are provided in individual cost analysis reports for each building considered for retention for scenarios involving either rehabilitation or mothballing.

The Focused Feasibility Study was developed to provide the County with up-to-date information on the various resources in the Historic District to inform findings regarding the feasibility/infeasibility of the various Project alternatives and mitigation measures considered in the EIR with regard to cost, ability/inability to meet Project objectives, and ability/inability to reduce environmental impacts to historical resources within the Historic District. As defined in Chapter 2.5, § 21061.1. of the State CEQA Guidelines, the term "feasible" means "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."[1] This Focused Feasibility Study is comprised of the individual studies for the selected resources in the Historic District, including Individually eligible resources, as well as Primary and Secondary Contributors, that are being considered for retention through either mothballing or rehabilitation for adaptive reuse. The

[1] http://resources.ca.gov/ceqa/stat/chap2_5.html

Focused Feasibility Study was prepared by qualified professionals in the fields of historic architecture, architecture, structural engineering, and construction cost estimation.

This document provides a baseline for decision-making regarding the feasibility of rehabilitation or mothballing of selected resources in the Historic District. Based upon the Historic District Evaluation Report and the CDF analysis, these selected resources (Individually eligible, Primary and Secondary contributors) most strongly convey the historic significance of the Historic District and are of sufficient historic value to warrant inclusion in this feasibility study. However, repurposing all of the selected buildings for County uses would require a substantial construction effort and outlay of County resources in order to rehabilitate them to a condition that would be suitable for occupation. Of the selected resources, a sub-set of buildings identified as suitable for adaptive reuse would be those that meet the following criteria: (1) are Individually Eligible or are Primary Contributors; (2) have substantial available square footage; (3) are centrally located or visually prominent or located in proximity to each other; and (4) are not unreasonably costly to rehabilitate.

RANCHO LOS AMIGOS SOUTH CAMPUS
Focused Feasibility Study

Introduction

For the preparation of the Focused Feasibility Study, ESA served as the project manager and principal investigator to coordinate, review, and facilitate technical information provided by a technical team of three technical experts who were sub-consultants to ESA and who provided the necessary engineering, architectural and cost estimating services for the analysis presented within the Focused Feasibility Study. The technical team consist of the firms that follow: SMS Architects (a firm that has experience with other large historic resource projects, such as the Fred C. Nelles State Reform School in Whittier); Coffman Engineering (the firm that also prepared the structural report evaluations for the 2007-2009 Sapphos Feasibility Study); and MGAC, a cost estimating firm as led by Rick Lloyd (the project manager who oversaw the preparation of the economic evaluations for the previous 2007-2009 Sapphos Feasibility Study while working for the cost estimating firm of Davis Langdon).

In order to prepare the Focused Feasibility Study, ESA updated structural and rehabilitation costs for a select group of existing buildings—the buildings previously identified as Primary Contributors and Secondary Contributors in the CDF analysis prepared for the County in 2018.[2] As previously described, the intent in preparing the CDF analysis to: assist in the development of alternatives to the Project that would reduce impacts to historical resources, allow potential impacts to historical resources to be properly analyzed in the EIR, and inform any necessary mitigation measures. The CDF analysis assigned a ranking system to the contributing features of the Historic District in 2018 based upon the four factors that follow: level of integrity and significance, visual prominence, date of construction and architectural merit. Based upon the evaluation of these four factors, all buildings within the Historic District—each of which has a Los Angeles County Building Number (LACO No.)—were assigned one of the five rankings that follow: Individually Eligible (to the National Register), Primary Contributor, Secondary Contributor, Tertiary Contributor, and Non-Contributor. An evaluation report of the Historic District entitled the *Rancho Los Amigos South Campus, County of Los Angeles , City of Downey, California Historic District Evaluation Report*, which was prepared by ESA in 2018 (2018 ESA

[2] Memorandum from ESA to the County entitled "Character Defining Features Analysis for Rancho los Amigos South Campus, Downey, Los Angeles County, California," dated June 20, 2018, provided in Appendix B.

Historic District Evaluation Report), also provided necessary background for preparing the Focused Feasibility Study.[3]

The Focused Feasibility Study analyzes and documents the feasibility of accommodating current County needs, as defined by the Project description, through retention of the historic buildings in conformance with the Secretary's Standards for County office use. As part of the Focused Feasibility Study, ESA also provided mothballing costs for each of the buildings that the County is considering for retention; mothballing costs were not included in the previous 2007-2009 Sapphos Feasibility Study. The Focused Feasibility Study incorporates a cost and feasibility analysis for the proposed Project and alternatives that will include retention by mothballing or rehabilitation of the identified Individually Eligible and contributing buildings (Primary Contributors and Secondary Contributors) and construction cost estimates to reflect conditions at present.

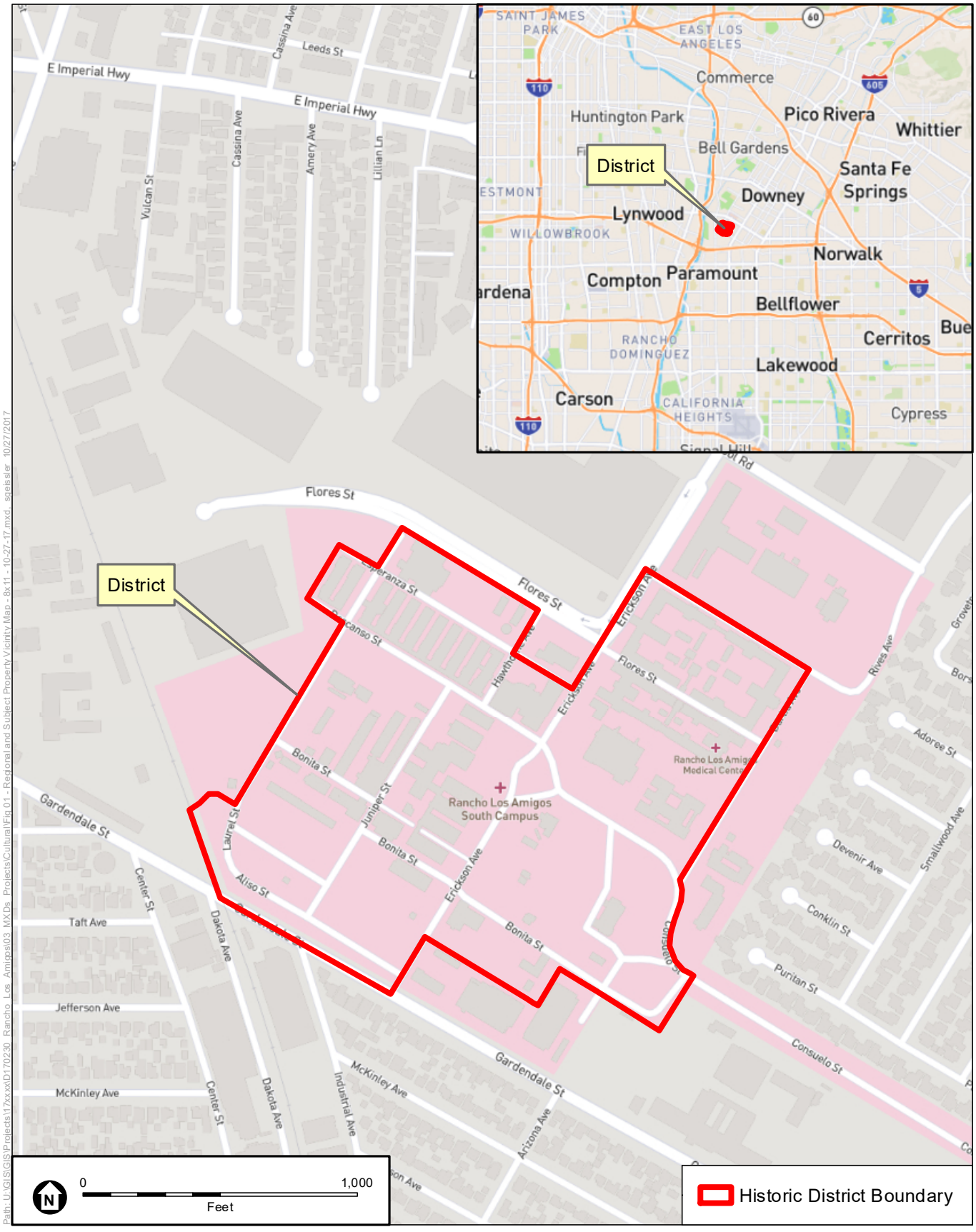
ESA personnel involved in the preparation of this Study are as follows: Gabrielle Harlan, Ph.D. Senior Architectural Historian, who served as the technical team lead and principal author of the report, and Margarita Jerabek, Ph.D., Director of Historic Resources, who provided direction in regard to strategy for the preparation of the Study, technical expertise, and proofreading. Both staff meet or exceed the Secretary of the Interior's professional qualification standards for architectural history or history. Charles Smith, Principal Associate, served as project manager. Jessie Fan, Senior Associate, provided project management support. Resumes of key personnel are included in **Appendix A**.

Description of Historic District

Rancho Los Amigos Historic District Description

As described in the 2018 ESA Historic District Evaluation Report, the Rancho Los Amigos Historic District (Historic District) is an institutional district located in Los Angeles County, in the southwest portion of the city of Downey. The existing Historic District is characterized by a combination of buildings, structures and landscape features representing seven different resource types associated with the historical development of Rancho Los Amigos: Administrative and Staff Buildings, Patient Wards, Dining and Social Facilities, Utilities, Agriculture and Occupational Therapy Facilities, Maintenance and Support Buildings, and Landscape Features. Out of the 109 buildings, structures, and features surveyed on the Project Site, 61 were identified as Contributors to the District and 48 were identified as Non-Contributors. The 61 Contributors include a total of 59 buildings and structures, as well as a Moreton Bay Fig Tree and the Rancho Los Amigos Site Plan. Development in the Historic District is primarily institutional, containing mostly one- and two story patient wards, surrounded by support and administrative facilities.

[3] Environmental Science Associates, Margarita Jerabek, et al, *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Evaluation Report,* prepared for the County of Los Angeles, June 2018.



SOURCE: Open Street Map, 2017.

Figure 1
Regional and Subject Property Vicinity Map

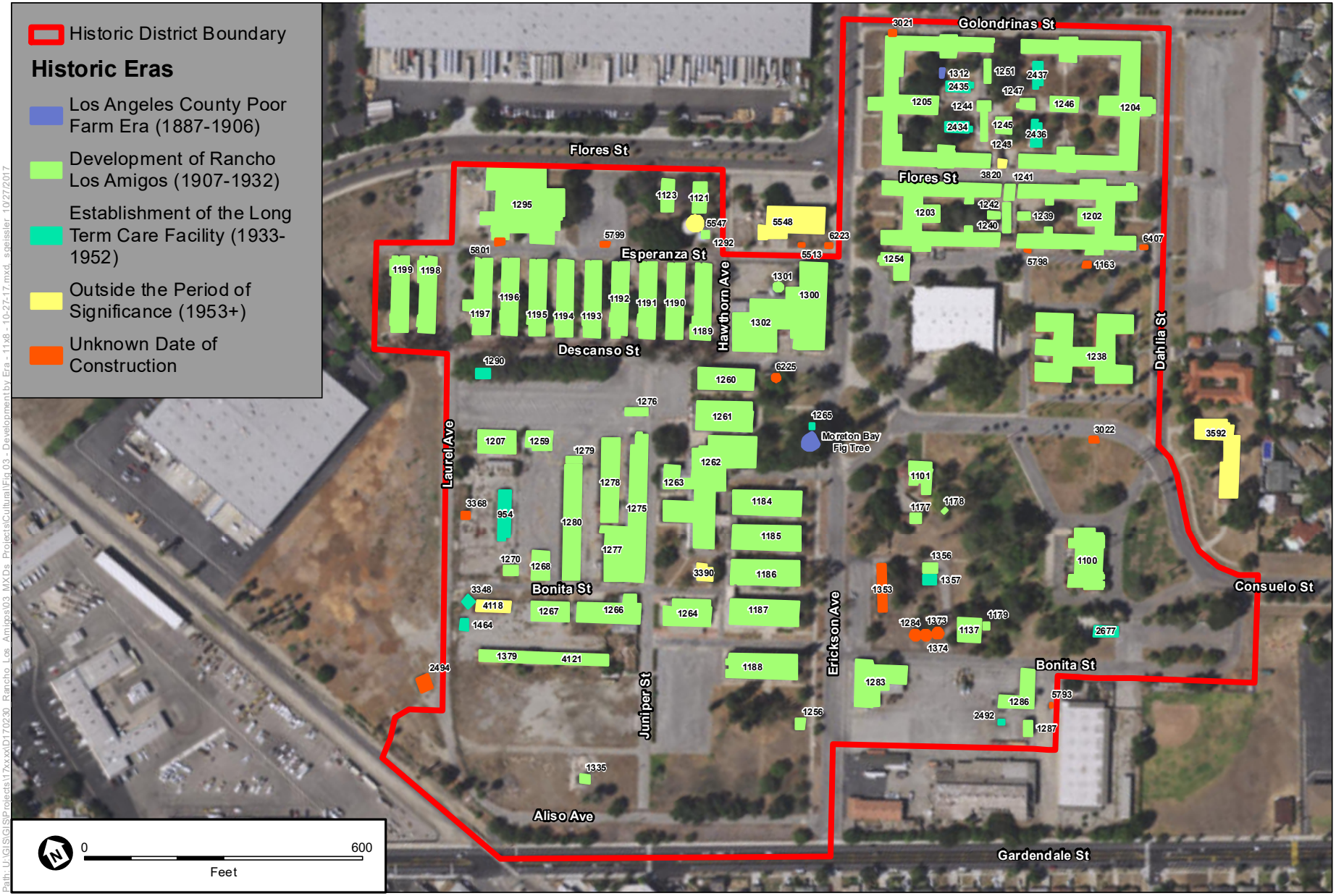
ESA

SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 2
Aerial Photograph of Subject Property and Vicinity

ESA



SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 3

Development by Era

ESA

The Historic District includes facilities related to the County of Los Angeles Poor Farm, which was established in 1888, renamed the Los Angeles County Farm in 1915, and known as Rancho Los Amigos by 1932. While the subject property first began operating as a poor farm in 1888, the majority of the buildings that remain on the property were constructed between 1907 and 1932, and were largely designed in the Renaissance Revival style and brick vernacular, although the Historic District also exhibits examples of Craftsman, Neoclassical Revival, Spanish Colonial Revival, and modest utilitarian buildings. The Historic District is roughly bound by Golondrinas Street, Erickson Avenue, and Flores Street to the north, Dahlia Avenue and Consuelo Street to the east, Bonita Street, Erickson Avenue, and Aliso Street to the south, and Laurel Street to the west.

The Historic District has been previously recorded and documented in multiple historic resources surveys; the first was conducted by Historic Resources Group (HRG) in 1995, another was undertaken by Post-Hazeltine Associates in 2004, a third was executed by Sapphos in the period from 2007-2011, and the most recent one was conducted by ESA in 2017 and the findings were submitted to the County in the 2018 ESA Historic District Evaluation Report.

The Historic District was originally recorded in 1995 by Historic Resources Group (HRG) during a survey of earthquake damaged properties by the Federal Emergency Management Agency (FEMA) after the 1994 Northridge Earthquake, in compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA) that requires Federal agencies to assess the effects of their undertakings on historic properties prior to the approval of expenditure of federal funds or to the issuance of any federal license or permit. This requirement is described in detail in the Code of Federal Regulations (CFR).[4] As a result of HRG's survey, the Historic District was determined eligible for the National Register of Historic Places (National Register) under Criterion A, for its association with events that have made a significant contribution to the broad patterns of history, through the Section 106 process, by a consensus among the County, FEMA, the California Office of Historic Preservation (OHP), and the Advisory Council for Historic Preservation (Advisory Council). Due to the determination of eligibility, the Historic District was automatically listed on the California Register. It is considered eligible under Criterion 1 for its association with events that have made a significant contribution to the broad patterns of our history, for its importance in the early healthcare of the County's indigent population, and later treatment of patients with chronic illnesses or mental disorders.[5]

The historic resources surveys that have been conducted over time have had different findings in regard to the recommended period of significance for the Historic District, its integrity, the number of buildings that were evaluated as potentially individually eligible to the National Register, and the number of contributors to the Historic District. For instance, the 1995 survey conducted by HRG recommended a period of significance of 1888 to 1945, and the survey included documentation of 102 buildings, structures, and features within the boundaries of the Historic District, of which 76 were identified as contributors. None were identified as potential individually-eligible resources. In 2004, the Historic District was resurveyed by Post/Hazeltine Associates and recommended ineligible due to a lack of integrity.[6] However, the 2004 survey identified 11 buildings and structures as individually eligible as distinctive examples of a type,

4 36 CFR § 800.1.

5 Christy J. McAvoy, 1994 Northridge Earthquake Project Review, 1995

6 Post/Hazeltine Associates, Intensive Historic Structures/Site Survey for the South Campus of Rancho Los Amigos Rehabilitation Center, prepared for The County Administrator's Office, Los Angeles County, California, 2004.

period, or method of construction under National Register Criterion C and California Register Criterion 3, which are both criteria under which buildings may be eligible to these two registers for their architecture These buildings were LACO Nos. 1100, 1101, 1177, 1178, 1238, 1261, 1262, 1263, 1300, 1301, and 1302. The Historic District was resurveyed again between 2007 and 2011 by Sapphos, who concurred with HRG's original eligibility determination, but recommended that the period of significance be extended to 1952.[7] As of 2011, 68 contributors and 49 non-contributors had been identified as part of the Historic District. Sapphos also recommended nine buildings and structures individually eligible for listing in the National Register under Criterion C and California Register under Criterion 3 for architectural distinction, rather than the eleven identified in the 2004 survey. These buildings were LACO Nos. 1100, 1101, 1177, 1238, 1262, 1263, 1300, 1301, and 1302.

Finally, the 2018 ESA Historic District Evaluation Report provided the findings of an historic resources survey update of the Historic District conducted by ESA between June 19 and June 23, 2017 (2017 ESA Survey). The Historic District was resurveyed pursuant to Public Resources Code (PRC), Article 2, § 5024.1(g)(4), which provides for the update of survey and re-evaluation of historical resources after five years to account for changed circumstances or further documentation. During the survey, 109 buildings, structures, and features within the Historic District boundary were identified and documented. Although Sapphos surveyed 117 buildings, structures, and features when it conducted its 2002-2011 survey of the subject property, ESA found that two of these buildings had been demolished in the six-year interim period between that Sapphos survey and its own. Moreover, ESA also found that seven of the previously surveyed properties were located outside of the Historic District boundary.[8] This left 108 buildings, structures, and features remaining within the Historic District. Moreover, ESA also determined that one additional feature should be added as a contributor to the Historic District—the landscape—for a total of 109 buildings, structures, and features. However, shortly after the completion of the survey, on June 26, 2017, LACO Nos. 1101 and 1287 suffered arson-related fire damage. The damage inflicted by the fire served to render them non-contributors to the Historic District.[9]

Statement of Significance for Rancho Los Amigos Historic District

As part of the 2017 ESA Survey, the Historic District was found to continue to remain eligible to the National Register under Criterion A and to the California Register under Criterion 1 at the local level of significance. Furthermore, ESA found that the Historic District meets Criterion 1 of the Los Angeles County Historic Preservation Ordinance established in September of 2015. The

7 Sapphos Environmental, Inc., *Rancho Los Amigos Historic District: Update Report*, 2011.

8 LACO Nos. 3020 and 5393 have been demolished since Sapphos' survey of the District. Moreover, LACO Nos. 7704, 2637, 1991, 3591, as well two buildings associated with the Family Home, and an unnumbered Shed are located outside the District boundary and were not considered contributors.

9 Following the fire, ESA consulted with Lucinda Woodward, the Supervisor for the Local Government and Compliance Unit at the California State Office of Historic Preservation Office (OHP) in order to determine how best to document the fact that two buildings were rendered non-contributors to the Historic District due to arson-related fire damage. Per her instructions, ESA submitted to the OHP its recent survey update of the Rancho Los Amigos Historic District in an electronic format on July 23, 2018. On July30, 2018, Joseph McDole, State Historian II at the OHP, confirmed that the survey report was received and that it was added to the OHP's documentation for the site.

Los Angeles County Poor Farm and its evolution into a long-term healthcare facility (Rancho Los Amigos) during the late nineteenth and early twentieth centuries reflects broader trends in medical history across the United States. The Historic District's development over time illustrates changing approaches to healthcare and the treatment of Los Angeles County's indigent population. The Historic District also appears potentially eligible to the National Register under Criterion C as a distinguishable entity whose components may lack individual distinction (i.e., a district), and it meets Los Angeles County Criterion 5 as a listed historical resource on the California Register that is eligible for listing on the National Register.

Based upon substantial evidence, ESA also concurred with Sapphos' recommendation that the Historic District's period of significance should be defined as spanning from 1888-1952, beginning with the Los Angeles County Poor Farm's opening and incorporating the full conversion and build-out of the health-care facilities and ending with the final sale and subdivision of the adjacent agricultural lands originally associated with the Poor Farm. This sale and subdivision marked the culmination of the subject property's evolution over time as a long-term healthcare facility. Furthermore, ESA also recommended that the Historic District's boundary should be expanded near the southeast corner to include the portions of Consuelo Street, Bonita Street, and Dahlia Avenue and the associated landscape areas east of the Administration Building (LACO No. 1100); based upon survey and research documentation, these areas were originally a part of the facility during the period of significance and they continue to retain sufficient integrity today in order to convey their historic significance.

The existing Historic District also appears to continue to meet the National Register and California Register requirements for retaining a level of integrity adequate to convey its significance. Although the buildings have been vacant, unused for many years, and have been deteriorating over time, the Historic District still retains its integrity of location, design, workmanship, materials, setting, feeling, and association. The Historic District remains in its original location since it opened as a poor farm in 1888. Although the Historic District no longer reflects its original design for the Poor Farm, as constructed in 1888, later changes to the subject property have acquired significance under National Register Criterion A, California Register Criterion 1, and Los Angeles County Criterion 1, for their association with the development of healthcare in Los Angeles County. Many of the buildings and features constructed during the period of significance (1888-1952) remain intact with few alterations. Of the 109 buildings, structures, and features identified within the Historic District, there are 61 contributors, representing seven different building types and landscape features, that reflect the overall function of the subject property as it evolved into a long-term healthcare facility.

Sapphos previously identified nine individually eligible buildings and structures in the Historic District. However, the historical significance of these buildings and structures is directly tied to the overall use of the subject property as a poor farm or a long-term healthcare facility. As such, ESA found that none of these nine buildings and structures exhibit individual historic significance under Criteria A/1 and should not be considered individually eligible for listing in the National Register or California Register, however, they are considered to be Historic District contributors. ESA's updated evaluation identifies five of these nine buildings and structures as individually eligible for listing in the National Register for their architectural merit under Criteria C/3 because

they are distinctive examples of their type, period, and method of construction. These buildings and structures include the following: the Administration/Safety Police Building (LACO No. 1100); Casa Consuelo (LACO No. 1238); and the grouping of the Power Plant (LACO No. 1300), Water Tower (LACO No. 1301), and Shop, Laundry and Ice Plant (LACO No. 1302). Additionally, the Moreton Bay Fig Tree appears individually eligible under Los Angeles County Criterion 6 as one of the oldest and largest of its species in the county and Criterion 7 as a significant feature of a neighborhood.

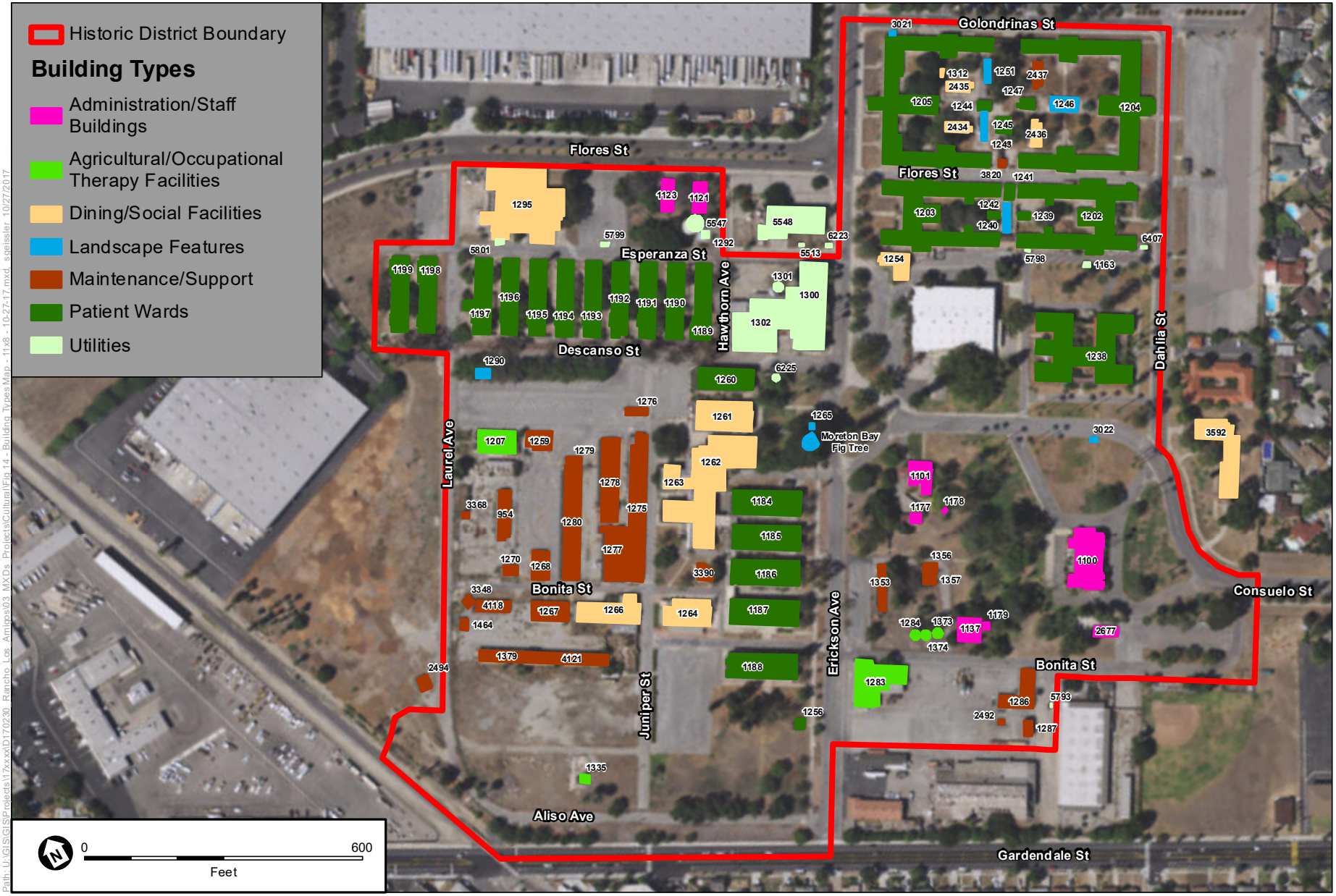
Building Types Associated with Rancho Los Amigos Historic District

As presented in **Table 1** below, seven different building types, which together allowed the facility to operate as a poor farm and later as a long-term healthcare facility, are found in the Historic District, as follows: Administration and Staff Buildings; Patient Wards; Dining and Social Facilities; Utilities; Agricultural and Occupational Therapy Facilities; Maintenance and Support Buildings; and Landscape Features (**Figure 4**). The Historic District occupies flat terrain with streets generally arranged in a grid pattern. The Historic District is traversed by several streets including Erickson Avenue, Consuelo Street, Bonita Street, Descanso Street, Esperanza Street, and Flores Street. The streets feature concrete curbs and sidewalks with landscaped parkways and original lampposts. A landscaped traffic circle occupies the intersection of Consuelo Street and Erickson Avenue.

TABLE 1
BUILDING TYPES ASSOCIATED WITH RANCHO LOS AMIGOS

Building Type	Number of Associated Buildings, Structures, and Features	LACO Nos.
Administration/Staff Buildings	9	1100, 1101, 1121, 1123, 1137, 1177, 1178, 1179, 2677
Patient Wards	29	1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1202, 1203, 1204, 1205, 1238, 1239, 1241, 1242, 1244, 1245, 1247, 1256, 1260
Dining/Social Facilities	12	1254, 1261, 1262, 1263, 1264, 1266, 1295, 1312, 2434, 2435, 2436, 3592
Utilities	15	1163, 1292, 1300, 1301, 1302, 5513, 5547, 5548, 5793, 5798, 5799, 5801, 6223, 6225, 6407, 7000
Agricultural/Occupational Therapy Facilities	6	1207, 1283, 1284, 1335, 1373, 1374
Maintenance/Support	27	954, 1259, 1267, 1268, 1270, 1275, 1276, 1277, 1278, 1279, 1280, 1286, 1287, 1353, 1356, 1357, 1379, 1464, 2437, 2492, 2494, 3348, 3368, 3390, 3820, 4118, 4121
Landscape Features	11	1240, 1243, 1246, 1251, 1265, 1290, 3020, 3021, 3022, Fig Tree, Site Plan
Total	**109**	

SOURCE: ESA Survey (2017)



SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 4

Building Types Map

ESA

Administration/Staff Buildings

These buildings represent the subject property's administrative and staff functions and generally date from the Development of Rancho Los Amigos Era (1907-1932). Primarily located in the southeast and northwest portions of the Historic District, these buildings feature architectural styles including the Craftsman and Spanish Colonial Revival styles. A total of nine buildings within the Historic District boundary fall within this Administration/Staff building type. During the Development of Rancho Los Amigos Era (1907-1932), the administrative core of the Historic District shifted from the vicinity of the area presently occupied by LACO NO. 1261 (Auditorium) to the south side of Consuelo Street. The construction of LACO No. 1100 (Administration/Safety/ Police Building) in 1926 reflects this administrative shift (**Figure 5**). Overlooking Consuelo Street and featuring the Spanish Colonial Revival style, LACO No. 1100 served as the subject property's second and last administrative center.

Extant staff-related buildings are Craftsman style staff residences, including LACO No. 1137 (Dairyman's House) built in 1907, and LACO Nos. 1121 and 1123 built in 1921 and 1924, respectively (**Figure 6**). The former Superintendent's Residence/Harriman House (LACO No. 1101), built in 1915 was an outstanding example of a Craftsman style residence that was destroyed in an arson fire on June 26, 2017.

Rancho Los Amigos South Campus

SOURCE : ESA, June 2017

Figure 5
Primary elevation of the Administration Building (LACO No. 1100), View west

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 6
West elevation of a staff cottage (LACO No. 1121), View Southeast

Patient Wards

These buildings represent the subject property's patient wards, as well as related facilities such as toilet buildings, and all date from the Development of Rancho Los Amigos Era (1907-1932). Located in the northeast, south, and northwest portions of the Historic District, these buildings feature architectural styles including the Renaissance Revival and Brick Vernacular and Colonial Revival styles. A total of 29 buildings within the Historic District boundary fall within this type. The Patient Wards found throughout the Historic District can be divided into three main groups.

The first group consists of four Renaissance Revival and Brick Vernacular U-shaped psychiatric wards at the northeast corner of the Historic District. LACO No. 1205 (Men's Psychiatric Ward), built in 1909 and given a U-shape in 1916, is the oldest. The U-shape of LACO No. 1205 is replicated in the design of three additional adjacent wards: LACO No. 1203 (Women's Psychiatric Ward) built in 1919, LACO No. 1202 (Women's Psychiatric Ward) built in 1924, and LACO No. 1204 (Men's Psychiatric Ward) also built in 1924 (**Figure 7**). LACO No. 1204 was partially damaged by arson-related fire in February 2017 that affected the southern half of the building and a portion of the roof.

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 7
East Elevation of the Men's Ward (LACO No. 1204), Fire Damage Visible on Roof, View Southwest

The second group consists of a row of five identical two-story general wards located on the west side of Erickson Avenue, just north of its southern terminus, without a distinct style. LACO Nos. 1184 and 1185, built in 1913, are the oldest and sit at the north end of the row (**Figure 8**). LACO No. 1186 (built in 1916), LACO No. 1187 (built in 1926), and LACO No. 1188 (built in 1928) were added later, completing the row of wards.

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 8
East and North Elevations of a Patient Ward (LACO No. 1184), View Southwest

Just south of the first group of wards described above stands LACO No. 1238 (Casa Consuelo), designed in the Spanish Colonial Revival style and constructed in 1930 (**Figure 9**).

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 9
East Elevation of the women's patient ward, Casa Consuelo (LACO No. 1238), View West

The third group consists of eleven cottage-style patient wards constructed during the Development of Rancho Los Amigos Era (1907-1932). Located in the northwest portion of the Historic District, these buildings demonstrate Craftsman style influences. With similar designs, these buildings include nine cottages on the east side of Laurel Street, connected by a long verandah along their primary (south) elevations, and two cottages on the west side of Laurel Street, also unified by a verandah fronting their primary (south) elevations. The cottage-style patient wards on the subject property were constructed in three phases. The first phase included the construction of LACO Nos. 1189, 1190, 1191, and 1192 in 1923 (**Figures 10 and 11**). During the second phase in 1926, LACO Nos. 1193, 1194, and 1195 were built. Finally, in 1928, as part of the third phase, LACO Nos. 1196, 1197, 1198, and 1199 were added.

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 10
South elevation of one of the cottage-style Patient Wards (LACO No. 1192), View North

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 11
Overview of cottage-style Patient Ward grouping (LACO No. 1189 and 1190), View Northwest

Dining/Social Facilities

These buildings represent the subject property's social activities, including dining and entertainment, and generally date from the Development of Rancho Los Amigos Era (1907-1932). Primarily located in the central portion of the Historic District, these buildings feature architectural styles including the Renaissance Revival and Brick Vernacular and Spanish Colonial Revival styles. A total of 12 buildings within the Historic District boundary fall within this type. Examples include LACO No. 1263 (Commissary and Receiving Room) designed in the Renaissance Revival and Brick Vernacular style and built between 1913 and 1924, LACO No. 1262 (Dining Room, Kitchen, Staff Room) designed in the Renaissance Revival and Brick Vernacular style and built between 1913 and 1926 (**Figure 12**), LACO No. 1261 (Auditorium) built in 1928 (**Figure 13**), LACO No. 1264 (Bonita Hall) designed in the Spanish Colonial Revival style and built in 1932 (**Figure 14**). LACO Nos. 1263 and 1262 have experienced recent incidents of arson, resulting in damage to some of their interior and exterior features.

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 12
East and South Elevations of the Dining Room, Kitchen and Staff Room (LACO No. 1262), View Northwest

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 13
East Elevation of the Auditorium (LACO No. 1261), View West

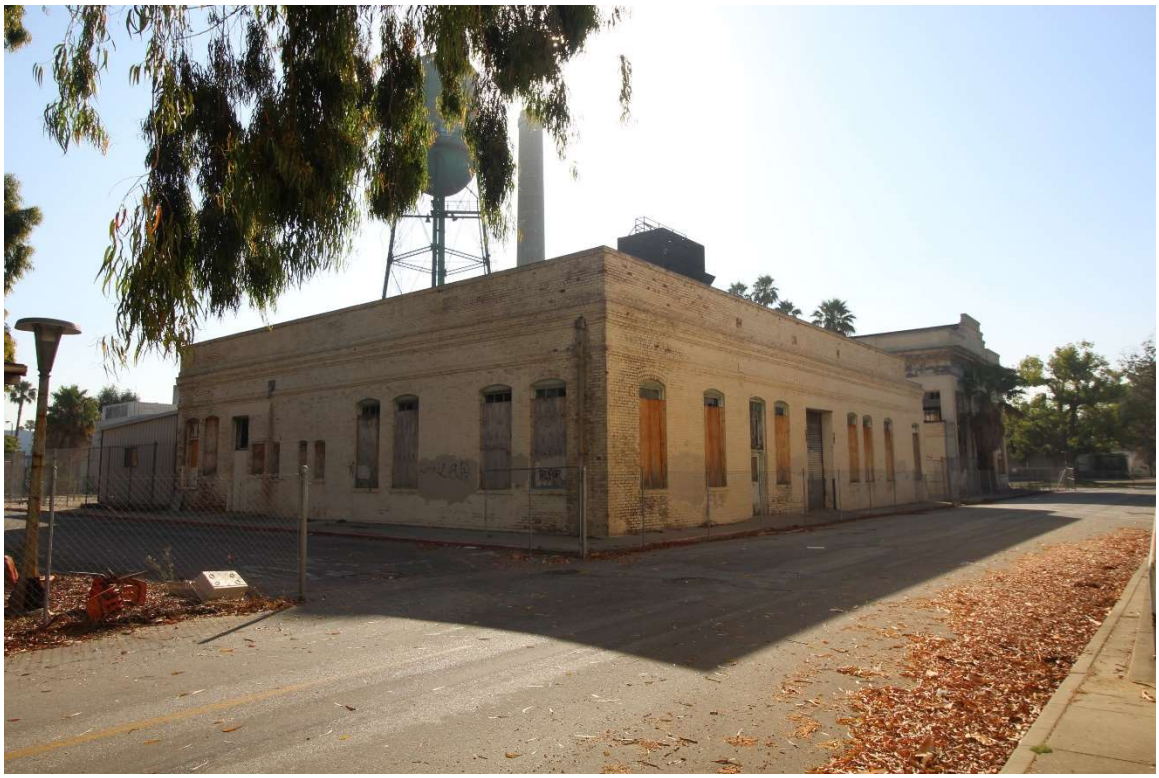
Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 14
East and South Elevations of Bonita Hall (LACO No. 1264), View North

Utilities

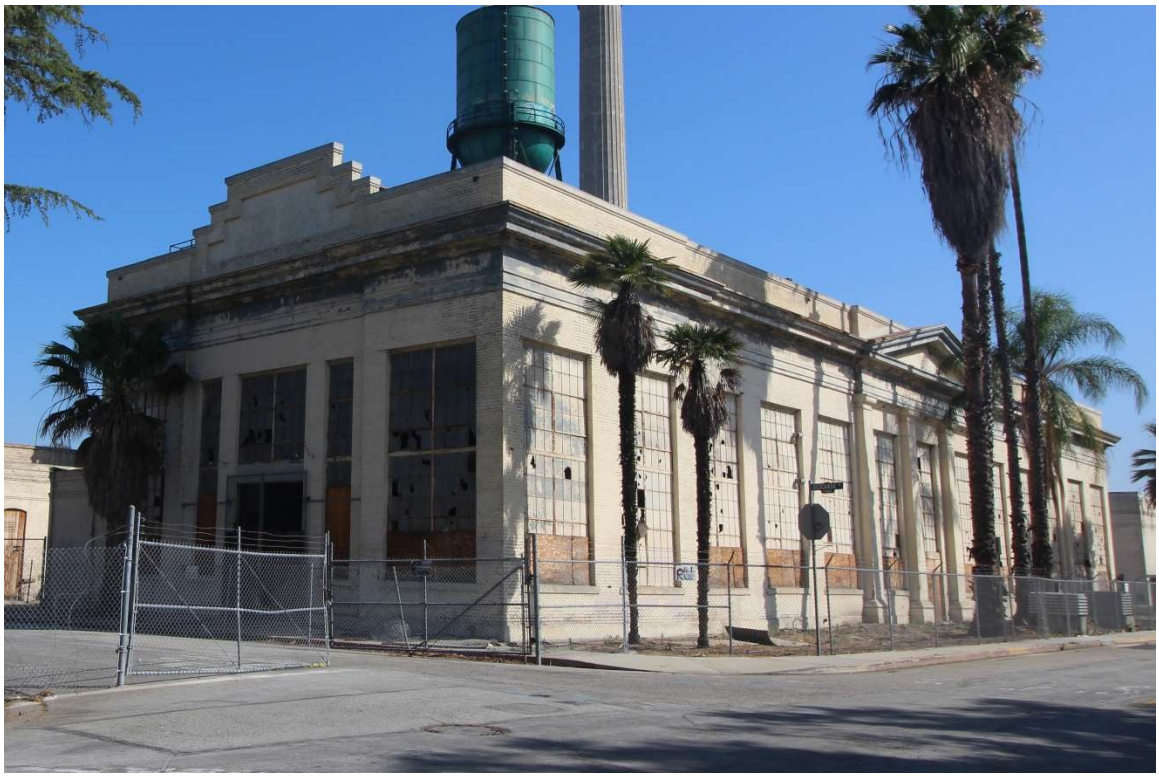
These buildings and structures represent the subject property's utility infrastructure, including power and water, and generally date from the Development of Rancho Los Amigos Era (1907-1932). Located throughout the Historic District but concentrated on the west side of Erickson Avenue, associated buildings feature architectural styles including the Neoclassical Revival style. A total of 15 buildings within the Historic District boundary fall within this type. Examples include LACO No. 1302 (Shop, Laundry, Ice Plant) built in two stages in 1909 and 1911 (**Figure 15**), LACO No. 1301 (Water Tower built in 1913, and LACO No. 1300 (Power Plant) designed in the Neoclassical Revival style and built in 1925 (**Figure 16**).



Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 15
East and South Elevations of the Shop, Laundry, and Ice Plant (LACO No. 1302), View Northeast



Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 16
East and South Elevations of the Power Plant (LACO No. 1300), View Northwest

Agricultural/Occupational Therapy Facilities

These buildings and structures represent the subject property's agricultural uses and occupational therapy programs and generally date from the Development of Rancho Los Amigos Era (1907-1932). This building type consists mostly of utilitarian buildings and structures concentrated in the southwest portion of the Historic District. A total of six buildings and structures within the Historic District boundary fall within this type. Examples include LACO No. 1207 (Work Preparation Center) built in the 1920s (**Figure 17**), LACO No. 1283 (Trunk Storage) originally built in 1915 as a stable (**Figure 18**), and LACO No. 1335 (Brooder House/Vivarium Annex) built in 1929. The basic designs of these structures is directly related to their functions, featuring simple (usually rectangular) floorplans constructed of inexpensive and readily available materials with no applied ornamentation.

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 17
West Elevation of the Work Preparation Center (LACO No. 1207), View East

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 18
West and North Elevations of the Trunk Storage (LACO No. 1283), View East

Maintenance/Support

These buildings represent the subject property's support functions, and generally date from the Development of Rancho Los Amigos Era (1907-1932). Concentrated in the southeast and western portions of the Historic District, these buildings feature architectural styles including Brick Vernacular and Utilitarian. A total of 27 buildings and structures within the Historic District boundary fall within this type. Examples include LACO No. 1276 (Lock Shop) designed in the Brick Vernacular style and built in 1913, LACO No. 1275 (Workshop) designed in the Brick Vernacular style and built in 1917 (**Figure 19**), LACO No. 1357 (Landscape Office) designed in the utilitarian style and built in 1938 (**Figure 20)** LACO No. 954 (Lumber Shed) designed in the utilitarian style and built in 1942.

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 19
East and South Elevations of the Workshop (LACO No. 1275), View Northwest

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 20
East Elevation of the Landscape office (LACO No. 1357), View West

Landscape Features

These features represent the subject property's overall landscape and circulation paths and generally date from the Los Angeles County Poor Farm Era (1887-1906) when the facility was first established. While there is only one building from the original period remaining, the site plan and circulation network laid out by Kysor, Morgan, and Walls remains extant today. A total of eleven features within the Historic District boundary fall within this type. Examples include the overall Site Plan of the subject property, the Moreton Bay Fig Tree (**Figure 21**), shelters, canopies (**Figure 22**), and bus stops. The Site Plan consists of significant circulation patterns such as Consuelo Street, which was the original primary approach to the Poor Farm, and Erickson Avenue, which eventually became a primary approach after the construction of Imperial Highway to the north. The Site Plan also includes open landscaped spaces between the Harriman Residence (LACO No. 1101) and the Administration Building (LACO No. 1100), as well as the traffic circle at the intersection of Erickson Avenue and Consuelo Street, and the landscaped areas in front of the Auditorium (LACO No. 1262). It is recommended that the Historic District's boundary be expanded at the southeast corner to encompass important aspects of the landscape and circulation paths that retain integrity (**Figure 23**). The new boundary follows the natural contours of the landscape and preserves important spatial relationships between the landscape, circulation paths, and nearby Administration Building (LACO No. 1100).

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 21
The Moreton Bay Fig Tree, View Southeast

Rancho Los Amigos South Campus

SOURCE: ESA, June 2017

Figure 22
Canopy near the Auditorium (LACO No. 1265), View Southwest

SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 23

Recommended Boundary for the Rancho Los Amigos Historic District (ESA, 2017)

ESA

Integrity Analysis

The National Register and California Register recognizes a property's integrity through seven aspects or qualities: location, design, setting, materials, workmanship, feeling, and association. Eligible properties should retain several, if not most, of these aspects. Both registers require that a resource retain sufficient integrity to convey its significance, and the property must retain the essential physical features that enable it to convey its historical identity. Integrity is based on significance and understanding why a property is important. The National Park Service (NPS) is the federal agency charged with both administering the National Register and with creating technical guidance for proper implementation of the nation's preservation policy at the federal level. To this end, the NPS has created a series of bulletins and briefs that address different issues in historic preservation practice; these bulletins and briefs address an array of topics that range from how to prepare a successful nomination to the National Register to how to properly conserve different building materials. One of these bulletins, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (National Register Bulletin 15), deals specifically with the issue of integrity in historic resources, among other topics, and it states of integrity as follows: "only after significance is fully established can you proceed to the issue of integrity."[10] With regard to integrity under Criteria A and B, National Register Bulletin 15 further states, "a property that is significant for its historic association is eligible if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person(s)."[11]

National Register Bulletin 15 also states that "for a district to retain integrity as a whole, the majority of the components that make up the district's historic character must possess integrity even if they are individually undistinguished. In addition, the relationships among the district's components must be substantially unchanged since the period of significance. When evaluating the impact of intrusions upon the district's integrity, take into consideration the relative number, size, scale, design, and location of the components that do not contribute to the significance. A district is not eligible if it contains so many alterations or new intrusions that it no longer conveys the sense of a historic environment. A component of a district cannot contribute to the significance if it has been substantially altered since the period of the district's significance, or it does not share the historic associations of the district."[12]

The Historic District was identified as significant under National Register Criterion A, California Register Criterion 1, and Los Angeles County Criterion 1 for its association with evolving medical care in Los Angeles County during the late nineteenth and early twentieth centuries. Based upon this significance finding, a period of significance has been identified as 1888, when the property began operation as the Los Angeles County Poor Farm, and 1952 when the former

[10] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 45; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

[11] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 46; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

[12] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 46; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

Poor Farm had fully converted into a long-term healthcare facility and most of the agricultural fields had been subdivided for residential development.

Additionally, the property was determined significant under Criteria C as a significant and distinguishable entity whose components lack individual distinction (an historic district) and under Los Angeles County's Criterion 5 as a resource that was determined eligible for the National Register and is listed in the California Register. The Historic District consists of seven different building types that played a role in the Historic District's history as an agricultural property and medical institution. To convey its significance under National Register Criteria A and C, California Register Criteria 1, and Los Angele County Criteria 1 and 5, the Historic District would need to retain its circulation paths, open landscape, and contributors that embody each building type. Furthermore, it would need to retain the majority of the components and essential physical features that made up its character or appearance during the period of significance, and the relationships among the district components must be substantially unchanged since the period of significance, without many new alterations or new intrusions that would detract from the sense of a historic environment.

Location

The National Register defines integrity of location as "the place where the historic property was constructed or the place where the historic event occurred."[13] The Historic District has remained in its original location since it opened as the Los Angeles County Poor Farm in 1888. Therefore, the Historic District retains its integrity of location for the period of significance (1888-1952). Furthermore, the various components that make up the Historic District retain their original locations, and the relationships among district components are unchanged since the period of significance with little alterations or new intrusions.

Design

Integrity of design is defined by the National Register as "the combination of elements that create the form, plan, space, structure, and style of a property."[14] When the Historic District was originally planned by the Los Angeles based architectural firm of Kysor, Morgan, and Walls in 1887, the intent was to build a poor farm. Initially conceived as the Los Angeles County Poor Farm, the Historic District was intended to provide food, shelter, and clothing to the County's indigent population. The four original buildings were centrally located among agricultural fields. Overtime, the Historic District expanded as the needs of the institution evolved. The agricultural fields receded as new patient wards were constructed alongside support and administration facilities. While the current architecture of the Historic District does not reflect the original design intent of Kysor, Morgan, and Walls, the original site plan and circulation patterns laid out by the architects in the late nineteenth century remain. The changes to the District reflected changing approaches to healthcare that were occurring locally as well as nationwide. Although

[13] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 44; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

[14] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 44; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

the long-term health facilities were not constructed at one time based on a master plan developed by the sites original designers, their addition over a 40-year period reflects the changing needs of the institution. The Historic District retains intact examples of each of the building types that were present throughout the period of significance (1888-1952). Furthermore, the Historic District retains the majority of its components, and these components (i.e. contributors) retain integrity of Design in terms of structural system (i.e. wood-frame or masonry), massing, fenestration pattern, textures and colors of materials, type, amount and style of ornamental detailing. With its historic layout of roads and circulation paths, spatial relationships between major features and among components with little alterations or intrusions, original topography and open landscape areas, and mature landscape features, the Historic District retains its integrity of design reflecting the evolution of the property throughout its transition from a poor farm to a long-term healthcare facility.

Workmanship

The National Register defines integrity of workmanship as "the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory."[15] Workmanship can apply to the property as a whole or to its individual components, and can be expressed in vernacular methods of construction and plain finishes or in highly sophisticated configurations and ornamental detailing. As stated previously, the Historic District developed over a period of time, transitioning from a poor farm into a long-term healthcare facility. Throughout the period of significance (1888-1952), new buildings were constructed to meet the evolving needs of the institution. These buildings reflect a variety of architectural styles and construction techniques based upon their purpose and date of construction. Currently the Historic District retains examples of a variety of architectural styles, including Craftsman, Neoclassical Revival, Spanish Colonial Revival, Renaissance Revival and brick vernacular, as well as utilitarian structures. Additionally, the Historic District retains 61 contributing buildings and features, constructed over a 60-year period. Although these buildings are vacant and in varying states of decay due to a lack of use or maintenance, except for buildings and structures that were damaged by fires, their features remain largely intact and retain enough evidence of the workmanship employed at the time of their construction with limited alterations or loss. The Historic District's contributing buildings reflect a wide variety of uses, construction techniques, and workmanship including period examples of masonry, carpentry, and the use of plaster and concrete. Therefore, the Historic District retains integrity of workmanship.

Materials

Integrity of Materials is defined by the National Register as a resource's "physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property."[16] According to National Register Bulletin 15, "a property must retain the key exterior materials dating from the period of its historic significance."

[15] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 45; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

[16] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 45; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

The Historic District has suffered from deterioration of its original materials overtime due to the elements, arson, and vandalism. Despite the deterioration that has occurred, the contributing buildings found throughout the District retain enough of their original exterior materials including, wood, masonry, cast iron, concrete, and plaster to convey their historic configurations. The contributing buildings represent each of the building types that were located on the property during the period of significance (1888-1952), reflecting the changes that occurred to the institution as it adapted to the healthcare needs of the County. In its current condition, the Historic District possesses the necessary materials to reflect its significance. Therefore, the Historic District retains its integrity of materials.

Setting

Integrity of Setting is defined by the National Register as the physical environment of a historic resource.[17] Whereas location refers to a specific place where a property was built or an event occurred, setting refers to the character of the place in which the property played its historic role. The historic setting surrounding the Historic District has been altered significantly over time due to the subdivision of the former agricultural fields. Properties north of the Historic District have been redeveloped with warehouses and office buildings, while properties to the east were subdivided for residential development in the 1950s. Although these changes to the setting have removed the former Poor Farm from its agricultural setting, the changes reflect the property's transformation from a poor farm into a long-term healthcare facility and the corresponding development patterns of the surrounding County. While the fields surrounding the former Poor Farm have been lost due to infill development, the immediate setting of the Historic District and its contributors remains intact with little alterations or intrusions. The original circulation paths remain, reflecting the property's original layout during its inception in 1888. The Historic District retains 61 contributing buildings and features, constituting a majority of the buildings present during the Historic District's period of significance (1888-1952). Although the landscaping has evolved over time, the open areas throughout the Historic District's interior remain without infill development with the exception of a 1980s-era metal storage building and a 1964 Steam Plant, so that the property reflects the existing conditions during the period of significance to a great extent. While the broader setting outside of the Historic District has been altered by infill development, the immediate setting within the Historic that contributes to the Historic District's significance remains intact. Therefore, the Historic District retains its integrity of setting.

Feeling

According to the National Register guidelines, integrity of feeling is a historic resource's "expression of the aesthetic or historic sense of a particular period of time."[18] The Historic District retains examples of the seven different building types that were present during the period of significance (1888-1952). Each of the building types contributed to the overall function of the institution. In addition to the contributing buildings, the Historic District retains its original

[17] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 45; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

[18] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 45; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

circulation paths and open landscape with very little infill development. With 61 contributing buildings and features reflecting a variety of architectural styles and uses, the Historic District retains the relationships between the majority of its components with little alterations or intrusions and continues to convey the feeling of an early twentieth century healthcare facility and retains its integrity of feeling.

Association

Integrity of association is "the direct link between an important historic event or person and a historic property."[19] The Historic District continued to operate as a healthcare facility until the 1980s, when the County began to abandon the buildings. Currently, only the former Administration Building (LACO No. 1100) is in regular use. However, none of the contributing buildings, including the Administration Building, have been significantly altered for new uses. Therefore, because the contributing buildings continue to reflect their original healthcare related uses, the Historic District retains its integrity of association.

Summary

The Historic District meets the National Register and California Register integrity requirements, retaining its integrity of location, design, workmanship, materials, setting, feeling, and association. The Historic District remains in its original location since it opened as a poor farm in 1888. It has been identified as significant for its association with the evolving healthcare needs of Los Angeles County during the late nineteenth and early twentieth centuries. Although the Historic District no longer reflects the original design intent of the architects as constructed in 1888, the changes that occurred to the property overtime have contributed to its significance. New buildings were added to the site overtime based on need and space available. Many of the buildings constructed during the period of significance (1888-1952) remain intact with little modification. The 61 contributing buildings, structures, and features represent seven different building types, reflecting their different uses and the overall function of the institution as it evolved into a long-term healthcare facility. Therefore, the Historic District retains its integrity of design as it evolved over time. While some of the materials have deteriorated due to the abandonment of the site, the materials are largely intact and continue reflect the workmanship of the builders and designers at the time of their construction. The surrounding setting has changed significantly since the Historic District was first developed as a poor farm. The former agricultural fields that once surrounded the property have been subdivided for residential and commercial development. However, these changes reflect the property's significance as it evolved from a poor farm into a healthcare facility. The immediate setting within the Historic District boundaries remains intact and continues to reflect the Historic District's historic appearance. Consequently, the Historic District retains its integrity of feeling as an early twentieth century healthcare facility, retaining key building types like the several patient wards and the administration building. The Historic District retains integrity of association because the majority of the contributing buildings remain in the original condition. None of the buildings have been repurposed in a manner that resulted in substantial change. The property has been

[19] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 45; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

mostly abandoned for the last thirty years, with the exception of the Administration Building (LACO No. 1100), which has continued to operate as an office building. Therefore, the Historic District retains integrity of location, design, workmanship, materials, setting, feeling, and association (**Table 2**) and continues to convey its significance under National Register Criteria A and C, California Register Criteria 1, and Los Angeles County Criteria 1 and 5.

TABLE 2
SUMMARY OF INTEGRITY FOR THE RANCHO LOS AMIGOS HISTORIC DISTRICT

	Retains Integrity	Lacks Integrity
Location	X	
Design	X	
Setting	X	
Workmanship	X	
Materials	X	
Feeling	X	
Association	X	

Historic District Contributors

The contributing buildings, structures, and features of the Historic District were organized by ESA into seven different building types associated with the historical development of the Historic District. Each of the building types played a role in the Historic District's history as a poor farm and long-term healthcare facility. The Historic District conveys its significance under National Register Criteria A and C and California Register Criterion 1, by retaining contributors that embody each building type, including the three subtypes of patient wards. The combination of the various building types allows the Historic District to demonstrate the various functions and services historically associated with the Los Angeles County Poor Farm and later Rancho Los Amigos. Each potential contributor was categorized based on its historic use associated with the building types found in the Historic District. Buildings dating from the period of significance were evaluated for integrity and identified as contributors or non-contributors. National Register Bulletin 15states "For a district to retain integrity as a whole, the majority of the components that make up the district's historic character must possess integrity even if they are individually undistinguished."[20] In accordance with the guidelines of the National Register, integrity is evaluated in regard to the retention of location, design, setting, materials, workmanship, feeling, and association. The property must retain, however, the essential physical features that enable it to convey its historic identity. According to National Register Bulletin 15, "A property that is significant for its historic association is eligible if it retains the essential physical features that made up its character or appearance during the period of its association with the important event,

[20] U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 46; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

historical pattern, or person(s)."[21] In accordance with these guidelines, out of the seven aspects of integrity, Historic District contributors would need to retain integrity of location, setting, feeling, and association in order to convey the Historic District's significance under National Register Criterion A and California Register Criterion 1 and as a historic district defined under National Register Criterion C. The California Register requires that a resource retain enough of its historical character or appearance to be recognizable as a historical resource and to convey the reasons for its significance. The results of the survey are presented in detail in **Table 3**.[22] The map presented in **Figure 24** illustrates the important contributing elements of the site plan and landscape, while the map presented in **Figure 25** shows the locations of Historic District contributors, non-contributors, and individually eligible buildings.

Character-Defining Features of the Historic District

As described earlier in this Study, following the identification of all of the Historic District's contributors and non-contributors, ESA next prepared a CDF analysis for the Historic District that was presented to the County in a memo dated June 20, 2018 (**Appendix B**). The CDF analysis was prepared in support of the EIR being prepared by the County for the proposed Project. This type of analysis was necessary in order to define the physical characteristics of the Historic District that convey its historic significance so that the potential impacts to historical resources could be properly analyzed in the EIR. The analysis also assisted in the development of Project alternatives to reduce impacts to historical resources. In the sections that follow both the methodology and description for the CDF analysis are provided.

Methodology

The CDF analysis was conducted by ESA staff including Margarita Jerabek, Ph.D., Director of Historic Resources and Christian Taylor M.H.P., Senior Architectural Historian, both of whom meet and exceed the Secretary of the Interior's Professional Qualification Standards in history and architectural history.[23] The following tasks were performed by ESA for the study:

- Undertook an intensive pedestrian survey and digital photography to document the existing conditions of the Historic District. ESA utilized the survey methodology of the State OHP.
- Conducted extensive research on the Historic District and its construction history utilizing Sanborn fire insurance maps, historical photographs and plans, historical topographic maps, and other published sources.
- Conducted an updated Historic Resources Assessment of the Historic District,[24] based on the current conditions of the property.

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21 U.S. Department of the Interior, National Park Service Cultural Resources, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: U.S. Government Printing Office, 1995), 45; document available at http://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf, accessed October 26, 2019.

22 A more extensive table with photographs of the contributing and non-contributing buildings may be found in Appendix H of the 2018 ESA Historic District Evaluation prepared by ESA.

23 The Professional Qualification Standards are requirements used by the National Park Service and have been published in the CFR; See 36 CFR Part 61.

24 Environmental Science Associates, Margarita Jerabek, et al, *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Evaluation Report,* prepared for the County of Los Angeles, June 2018.

TABLE 3
ELIGIBILITY OF CONTRIBUTORS (1888-1952)

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Administration/ Staff Buildings	LACO No. 1100	Administration/Safety Police Building	1926	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1101	Superintendent's Residence/Harriman House	1915	Location	Yes	Non-Contributor (Lack of Integrity due to Fire Damage)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 1121	Staff Cottage	1921	Location	Yes	Contributor
				Setting	No	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1123	Staff Cottage	1924	Location	Yes	Contributor
				Setting	No	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1137	Dairyman's House	1907	Location	Yes	Contributor
				Setting	No	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1177	Superintendent's Garage	1917	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Administration/ Staff Buildings (cont.)	LACO No. 1178	Superintendent's Shed	c.1917-1922	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 1179	Dairyman's Garage	1926	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 2677	Post Office	1949	Location	No	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
Patient Wards	LACO No. 1184	General Ward 30	1913	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1185	General Ward 40	1913	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1186	General Ward 50	1916	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Patient Wards (cont.)	LACO No. 1203	Women's Psychiatric Ward	1919	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1205	Men's Psychiatric Ward	1907	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1242	Toilet Building	1920	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1244	Toilet Room	1916	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1189	Patient Ward 201	1923	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1190	Patient Ward 202	1923	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Patient Wards (cont.)	LACO No. 1191	Patient Ward 203	1923	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1192	Patient Ward 204	1923	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1202	Women's Psychiatric Ward	1924	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1204	Men's Psychiatric Ward	1924	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1260	Bathhouse and Ward	1922	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1187	General Ward 60	1926	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Patient Wards (cont.)	LACO No. 1188	General Ward 70	1928	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1193	Patient Ward 205	1926	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1194	Patient Ward 206	1926	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1195	Patient Ward 207	1926	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1196	Patient Ward 208	1928	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1247	Toilet Building	1925	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Patient Wards (cont.)	LACO No. 1256	Toilet Building	1925	Location	Yes	Contributor
				Setting	No	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1197	Patient Ward 209	1928	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1198	Patient Ward 210	1928	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1199	Patient Ward 211	1928	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1238	Casa Consuelo	1930	Location	Yes	Contributor*
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1239	Toilet Building	1930	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Patient Wards (cont.)	LACO No. 1241	Linen Room	1932	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1245	Linen Room/Snack Bar No. 3	1932	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
Dining/Social Facilities	LACO No. 1254	Chapel/Computer Center	1908	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	No	
	LACO No. 1261	Auditorium	1928	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1262	Dining Room, Kitchen, Staff Room	1913-1926	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1263	Commissary and Receiving Room	1912	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Dining/Social Facilities (cont.)	LACO No. 1264	Bonita Hall	1932	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1295	Kitchen and Dining Building	1927	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1312	Aviary	1888 (Relocated c. 1924)*	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1266	Amigos Hall	1928	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
	LACO No. 2434	Shed/Men's Gymnasium	1949*	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
	LACO No. 2435	Patient Recreation Shed	1949	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Dining/Social Facilities (cont.)	LACO No. 2436	Classroom Hut/Shed	1949	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
	LACO No. 3592	Chapel	1953	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
Utilities	LACO No. 1163	Generator House	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 1292	Pump House	1932	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 1300	Power Plant	1925	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1301	Water Tower	1913	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Utilities (cont.)	LACO No. 1302	Shop, Laundry, Ice Plant	1909-1911	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 7000	Butler Building	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5513	Electrical Station 18	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5547	200,000 Gallon Tank	1966	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5548	Steam Plant	1966	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5793	Electrical Distribution Panel	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Utilities (cont.)	LACO No. 5798	Electrical Station 16	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5799	Electrical Station 4C	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5801	Generator House	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 6223	Electrical Station	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 6225	Electrical Station	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 6407	Electrical Station	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Agricultural/Occupational Therapy Facilities	LACO No. 1207	Work Preparation Center	1925*	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1283	Trunk Storage	1923	Location	Yes	Contributor
				Setting	No	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1284	Grain Tank	Unknown	Location	No	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1335	Brooder House/Vivarium Annex	1929	Location	Yes	Contributor
				Setting	No	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1373	Grain Tank	Unknown	Location	No	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1374	Grain Tank	Unknown	Location	No	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Maintenance/Support	LACO No. 1275	Workshop	1917	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1276	Lock Shop	1913	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1278	Garage and Storage	1924	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 954	Lumber Shed	1942	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1268	Storage	1932	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1270	Garage	1932	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Maintenance/Support (cont.)	LACO No. 1277	Garage	1925*	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1279	Garage	1925*	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1280	Garage/Storage	1928	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1356	Tool House	1926	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1357	Landscape Office	1938	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 3348	Garbage Can Room	1951	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Maintenance/Support (cont.)	LACO No. 1259	Wheel Chair Repair	1932	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
	LACO No. 1267	Transportation Office	1930	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
	LACO No. 1287	Oil and Storage	1909	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 1286	Garage/Storage	1920	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 1464	Shed	1945*	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
	LACO No. 2437	Metal Shed	1949	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	

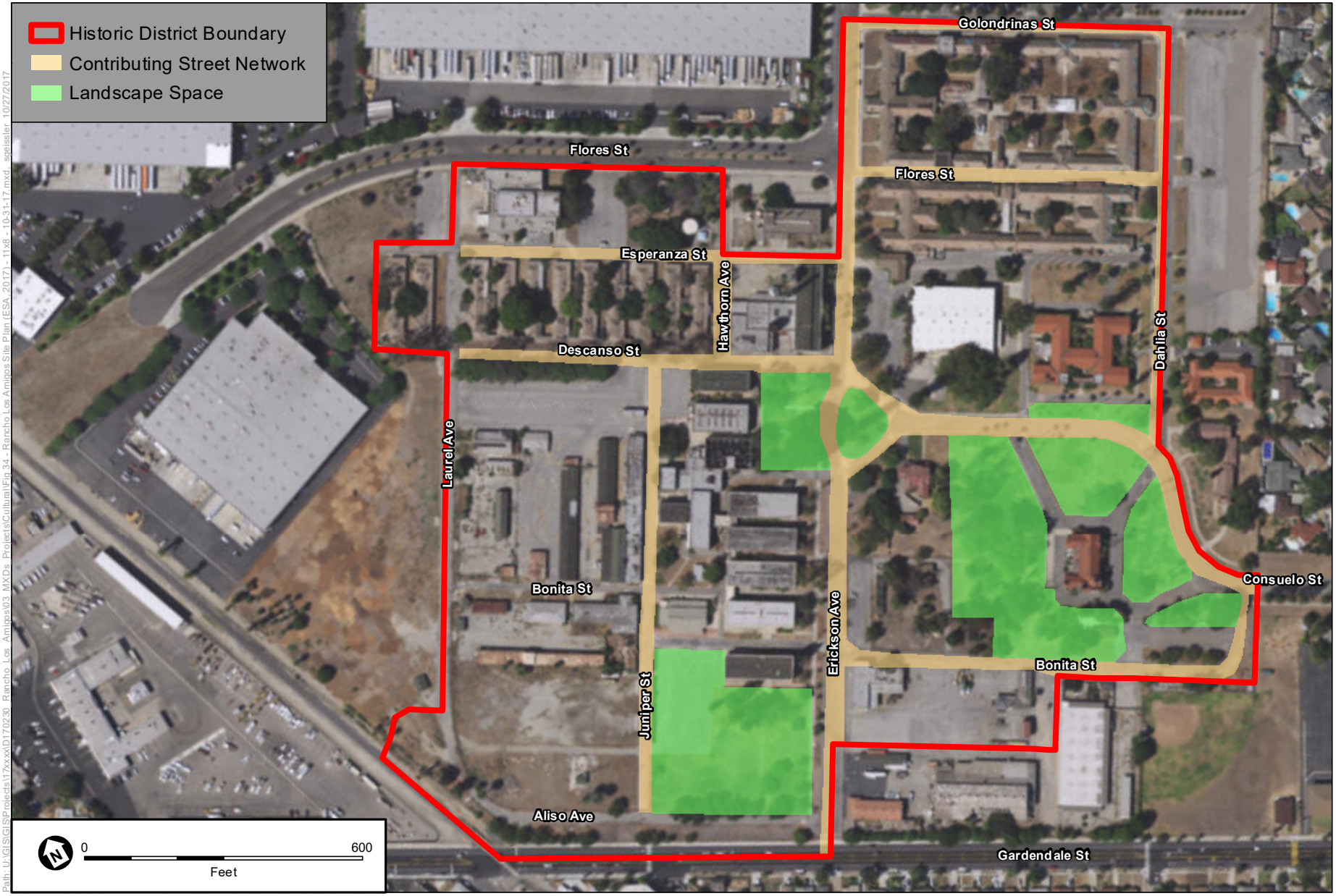
Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Maintenance/Support (cont.)	LACO No. 2492	Toilet Room	1948	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 1353	Greenhouse	Unknown (Post-1952)*	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 1379	Garage	Unknown (Post-1954)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 2494	Shed	Unknown (Pre-1952)	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 3368	Shed	Unknown (Pre-1952)	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 3390	Prosthetic Shop	1953	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Maintenance/Support (cont.)	LACO No. 3820	Loading Dock	1954	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 4118	Garage	Post-1965	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 4121	Garage	Unknown (Post-1954)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
Landscape Features	N/A	Site Plan	1888	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	N/A	Moreton Bay Fig Tree	1900	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1240	Shelter	Unknown (Post-1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Landscape Features (cont.)	LACO No. 1243	Open Shelter	Unknown (Post-1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 1246	Canopy	Unknown (Post-1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 1251	Open Shelter	Unknown (Post-1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 1265	Shelter	c. 1933*	Location	Yes	Contributor
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1290	Shelter	Unknown (1926-1930)	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
	LACO No. 3020	Bus Stop	Unknown	Location	N/A	Non-Contributor (Not Extant)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2018)
Landscape Features (cont.)	LACO No. 3021	Bus Stop	Unknown	Location	Yes	Non-Contributor (Does not contribute to Historic District's significance)
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 3022	Bus Stop	Unknown	Location	Yes	Non-Contributor (Does not contribute to Historic District's significance)
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Note: ** Individually Eligible

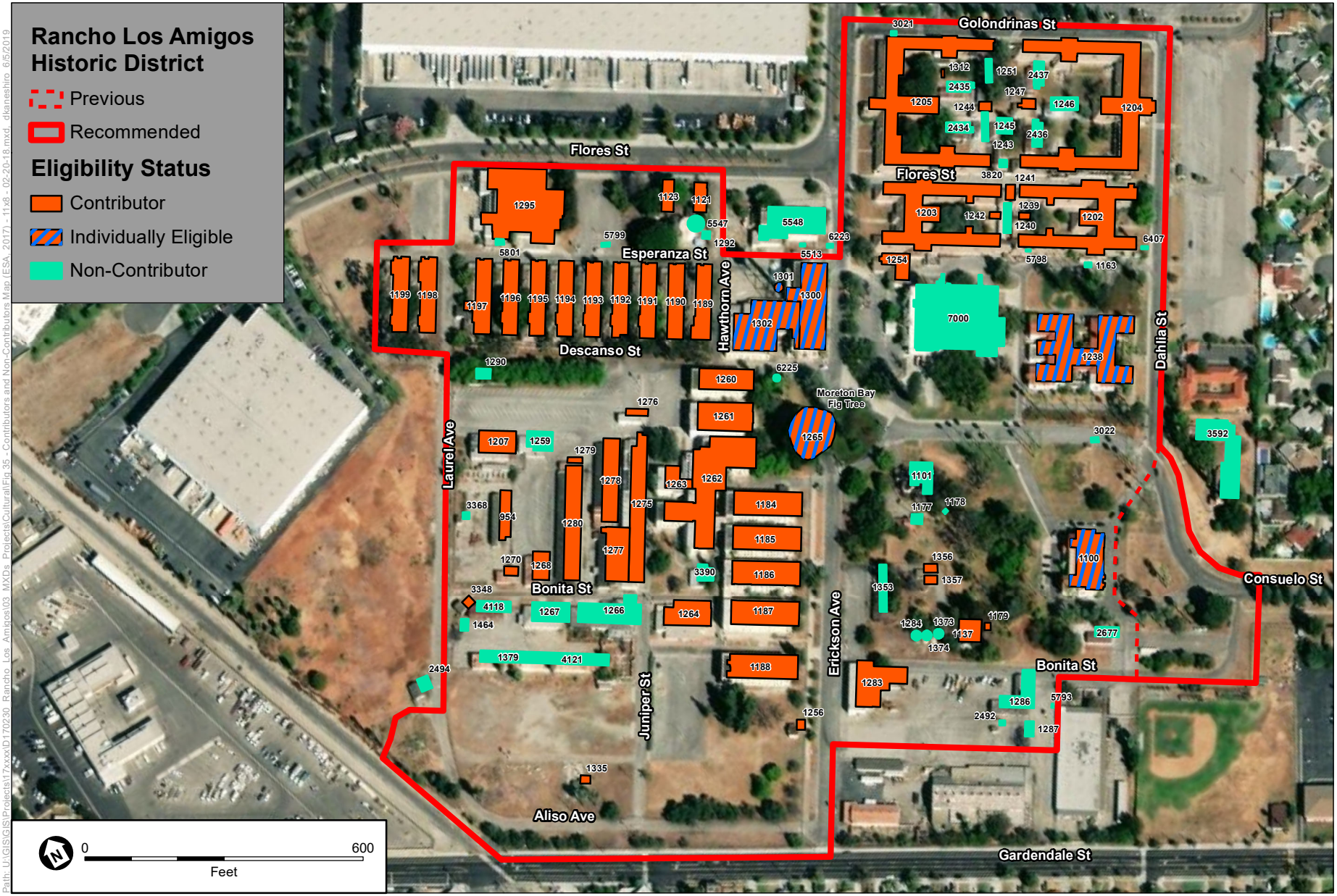


SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 24

Rancho Los Amigos Site Plan (ESA, 2017)



SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 25

Contributors and Non-Contributors Map (ESA, 2017)

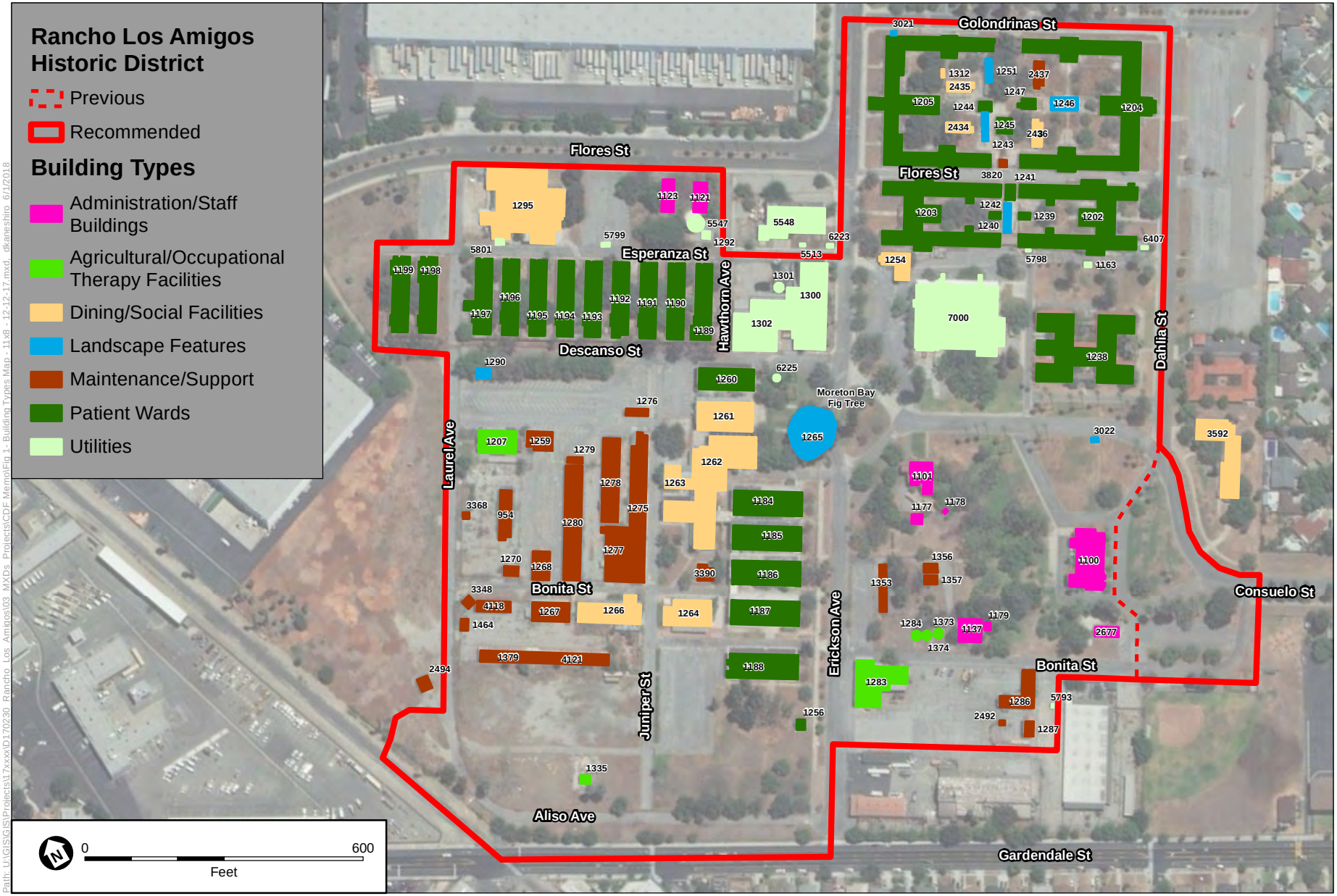
- ESA utilized the NPS's guidance provided in *Preservation Brief 17: Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Their Preservation*, to identify the visual character of the Historic District.[25]

While the Historic District may be of historic, rather than architectural significance, it is the Historic District's tangible material elements in its buildings, structures and features that embody its significance for association with specific events or persons. Therefore, identification of the Character-Defining Features of the Historic District was a necessary step as the County began to consider the potential impacts of the Project on the Historic District. Furthermore, the analysis was designed with the intent to facilitate the identification of a reasonable range of alternatives to the Project that could result in a reduced impact to the Historic District.

As described earlier, ESA previously found that the 61 contributors represent seven different building types associated with the historical development of Rancho Los Amigos. These seven building types embody the function and activities that materially convey the Historic District's significance, as follows: (1) Administration and Staff Buildings, (2) Patient Wards, (3) Dining and Social Facilities, (4) Utilities, (5) Agriculture and Occupational Therapy Facilities, (6) Maintenance and Support Buildings, and (7) Landscape Features. The building types are illustrated geographically in **Figure 26** below. Within each of these seven building types, Historic District contributors were ranked into one of three categories (Primary, Secondary, or Tertiary) based upon their relative ability to materially convey the Historic District's significance. These rankings were determined based on the four key considerations listed below:

- Level of Integrity – Level of integrity refers to a contributor's ability to convey the Historic District's significance under National Register Criteria A and C, California Register Criterion 1, and Los Angeles County Criteria 1 and 5 by retaining integrity of location, setting, feeling, and association.
- Visual Prominence – Contributors located along prominent circulation paths (Consuelo Street and Erickson Avenue) were ranked higher than similar buildings located on secondary and tertiary pathways.
- Date of Construction – Throughout the Historic District's development, groupings of buildings with similar functions and architectural design were constructed over multiple years. Date of construction was factored in to the ranking of contributors with higher rankings given to earlier examples of a particular function or design.
- Architectural Merit – The architectural merit of Historic District contributors plays an important role in unifying the Historic District. Contributors exhibiting high architectural merit will be ranked higher than simple utilitarian structures within the same building type

[25] Lee H. Nelson, *Preservation Brief 17: Architectural Character—Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character*, National Park Service, September 1988 (http://www.nps.gov/tps/how-to-preserve/briefs/17-architectural-character.htm, accessed June 4, 2018).



SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 26

Building Types Map

ESA

As ranked by ESA through the CDF analysis, Primary Contributors were identified as those buildings possessing a high level of integrity and visual prominence, reflecting early development phases within the Historic District, and typically representing key architectural examples of their building type. Secondary Contributors were identified as those buildings possessing a moderate level of integrity and visual prominence, reflecting later development phases within the Historic District, and typically not representing key architectural examples of their building type. Tertiary Contributors were identified as those buildings possessing a lower level of integrity and visual prominence, reflecting later development phases within the Historic District or late examples of a particular architectural style/building type, and generally lacking architectural merit.

Character-Defining Features Analysis of the Rancho Los Amigos Historic District

The 2017-2018 ESA Historic District Evaluation Report verified and confirmed the previous findings made by HRG and Sapphos and documented changes in condition of the existing Historic District which continues to remain eligible under National Register Criterion A and California Register Criterion 1 at the local level of significance. Furthermore, ESA found that the Historic District also meets Criterion C of the National Register as a distinguishable entity. The Los Angeles County Historic Preservation Ordinance was established in September of 2015, after the completion of the previous surveys. ESA found that the Historic District appears eligible under Criterion 1 of the Los Angeles County Historic Preservation Ordinance for its historical significance, and it is eligible under Criterion 5, as a listed historical resource on the California Register that is determined eligible for listing on the National Register. The Moreton Bay Fig Tree is eligible under Criterion 6 because it is one of the largest or oldest trees of the species located in the County, and under Criterion 7 because it is a significant outstanding feature of the Historic District/neighborhood.

In tandem with conducting the 2017 ESA Survey fieldwork, ESA also documented the Site Plan, setting, and landscape as a contributing feature in the Historic District. ESA expanded the Historic District's boundary near the southeast corner to include the portions of Consuelo Street, Bonita Street, and Dahlia Avenue and the associated landscape areas east of the Administration Building (LACO No. 1100) that retain integrity and were part of the Historic District during the period of significance (1888-1952). Because of its important role in establishing the early organization and layout of the facility, the Site Plan is considered a primary contributing feature.

The Historic District is made up of various building and structure types and features (site plan and landscape features) that together reflect the physical development of the site and functions of the subject property as it evolved from a Poor Farm into a long-term healthcare facility. The Historic District contains mostly one- and two- story patient wards, surrounded by support and administrative facilities. A majority of the extant contributing buildings and structures were constructed between 1907 and 1932 and were largely designed in the Renaissance Revival style and brick vernacular, although the Historic District also exhibits examples of Craftsman, Neoclassical Revival, Spanish Colonial Revival, and modest utilitarian buildings.

ESA identified five buildings and structures as individually eligible under Criteria C/3 because they are distinctive examples of their type, period, and method of construction. These buildings

and structures include: Administration/Safety Police Building (LACO No. 1100), Casa Consuelo (LACO No. 1238), and the grouping of the Power Plant (LACO No. 1300), Water Tower (LACO No. 1301), and Shop, Laundry and Ice Plant (LACO No. 1302). Additionally, the Moreton Bay Fig Tree is individually eligible under Los Angeles County Criterion 6 as one of the oldest and largest of its species in the county and Criterion 7 as a significant feature of a neighborhood.

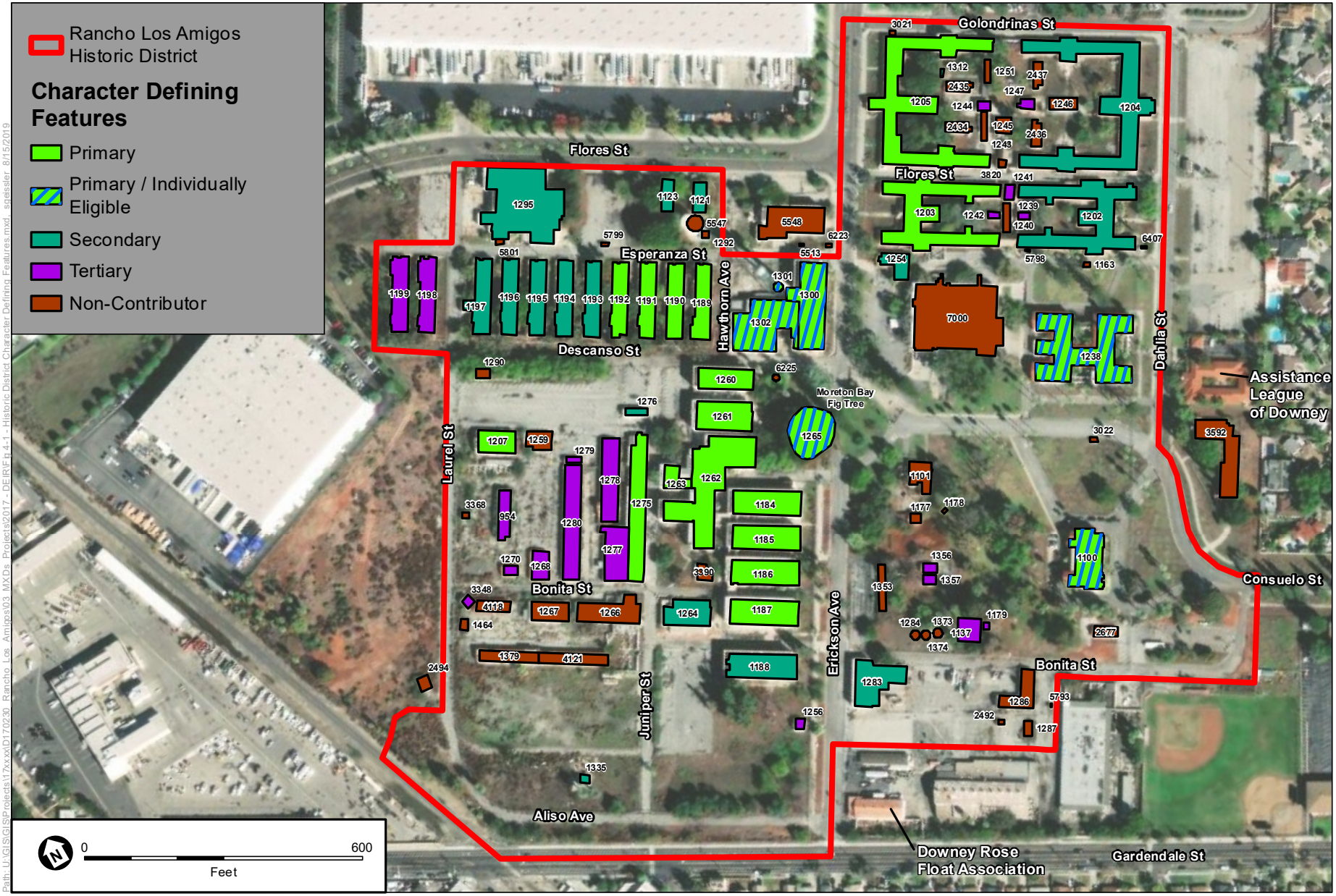
The Historic District is characterized by a combination of buildings, structures, and features, representing seven different building types associated with the historical development of the Historic District (Administration and Staff Buildings, Patient Wards, Dining and Social Facilities, Utilities, Agriculture and Occupational Therapy Facilities, Maintenance and Support Buildings, and Landscape Features). Together, the Historic District's contributing Site Plan, buildings, structures, and landscape features embody the history and significance of the site. As a result of this analysis, ESA identified 23 Primary Contributors, 17 Secondary Contributors, 21 Tertiary Contributors and 48 Non-Contributors. A map of the Historic District, illustrating the contributors by their relative importance within the Historic District is included below as **Figure 27**. An inventory of buildings, structures, and features classified as primary, secondary, tertiary, and non-contributing is presented below in **Table 4.**

Reason for Investigation

As the lead agency, the County is required to consider the potential for the proposed Project described in the RLA South Campus Project EIR to result in significant impacts to the environment, including historical resources. At the time of the most recent 2017 survey, there were 61 extant contributors (structures, buildings, and features) remaining in the Historic District. Because the Historic District continues to retain enough integrity to convey its significance as a historical resource and a proposed Project is planned for the site that would demolish the majority of the buildings that comprise the Historic District, the County must consider alternatives and mitigation measures capable of avoiding or reducing the significant unavoidable impacts of the proposed project. This is due to the County's responsibilities under CEQA and as the lead agency when it identifies the potential of a proposed project to result in significant impacts to the environment.

Feasibility of Rehabilitation and Adaptive Reuse of Historical Resources

This study was undertaken to determine the feasibility of rehabilitating and adaptively reusing historic structures and buildings as alternatives to the Project currently planned at the RLA South Campus. As a result of the Project, the existing buildings in the Development Area would be demolished to make way for the new County buildings. Building demolition, infrastructure construction, and remediation would take place on the remainder of the Project Site, outside of the Development Area. The Focused Feasibility Study considers the current Project's objectives to provide new County office facilities and associated infrastructure and considers whether these Project objectives could reasonably be met by rehabilitating and adaptively reusing the existing historic structures on the Project Site rather than demolishing them and building new facilities for the Project.



SOURCE: DigitalGlobe, 2016 (Aerial), ESA, 2018.

Rancho Los Amigos South Campus

Figure 27

Historic District Character Defining Features

ESA

TABLE 4
CHARACTER-DEFINING FEATURES OF THE RANCHO LOS AMIGOS HISTORIC DISTRICT

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Administration/ Staff Buildings	LACO No. 1100	Administration/Safety Police Building	1926	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1121	Staff Cottage	1921	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Moderate	
	LACO No. 1123	Staff Cottage	1924	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Moderate	
	LACO No. 1137	Dairyman's House	1907	Integrity	Moderate	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Low	
	LACO No. 1179	Dairyman's Garage	1926	Integrity	Moderate	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Low	
	LACO No. 2677	Post Office	1949	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1101	Superintendent's Residence/Harriman House	1915	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1177	Superintendent's Garage	1917	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1178	Superintendent's Shed	c.1917-1922	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Patient Wards	LACO No. 1205	Men's Psychiatric Ward	1907	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1184	General Ward 30	1913	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1185	General Ward 40	1913	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1186	General Ward 50	1916	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1203	Women's Psychiatric Ward	1919	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1260	Bathhouse and Ward	1922	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1189	Patient Ward 201	1923	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1190	Patient Ward 202	1923	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1191	Patient Ward 203	1923	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1192	Patient Ward 204	1923	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Patient Wards (cont.)	LACO No. 1187	General Ward 60	1926	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1238	Casa Consuelo	1930	Integrity	High	Contributor ** (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1202	Women's Psychiatric Ward	1924	Integrity	High	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1204	Men's Psychiatric Ward	1924	Integrity	High	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1193	Patient Ward 205	1926	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1194	Patient Ward 206	1926	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1195	Patient Ward 207	1926	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1188	General Ward 70	1928	Integrity	High	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Low	
				Architectural Merit	High	
	LACO No. 1196	Patient Ward 208	1928	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	High	
	LACO No. 1197	Patient Ward 209	1928	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	High	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Patient Wards (cont.)	LACO No. 1244	Toilet Room	1916	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Low	
	LACO No. 1242	Toilet Building	1923	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1247	Toilet Building	1925	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1256	Toilet Building	1926	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1198	Patient Ward 210	1928	Integrity	Low	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Moderate	
	LACO No. 1199	Patient Ward 211	1928	Integrity	Low	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Moderate	
	LACO No. 1239	Toilet Building	1930	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 1241	Linen Room	1932	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 1245	Linen Room/Snack Bar No. 3	1932	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Dining/Social Facilities	LACO No. 1263	Commissary and Receiving Room	1912	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Dining/Social Facilities (cont.)	LACO No. 1262	Dining Room, Kitchen, Staff Room	1913-1926	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1261	Auditorium	1928	Integrity	Moderate	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1312	Aviary	1888 (Relocated c. 1924)*	Integrity	Moderate	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Low	
	LACO No. 1254	Chapel/Computer Center	1908	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	Moderate	
	LACO No. 1295	Kitchen and Dining Building	1927	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1264	Bonita Hall	1932	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Low	
				Architectural Merit	High	
	LACO No. 1266	Amigos Hall	1928	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 2434	Shed/Men's Gymnasium	1949*	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 2435	Patient Recreation Shed	1949	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 2436	Classroom Hut/Shed	1949	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Dining/Social Facilities (cont.)	LACO No. 3592	Chapel	1953	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Utilities	LACO No. 1302	Shop, Laundry, Ice Plant	1909-1911	Integrity	High	Contributor ** (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1301	Water Tower	1913	Integrity	High	Contributor ** (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1300	Power Plant	1925	Integrity	High	Contributor ** (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1292	Pump House	1932	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1163	Generator House	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5513	Electrical Station 18	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5793	Electrical Distribution Panel	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5798	Electrical Station 16	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5799	Electrical Station 4C	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Utilities (cont.)	LACO No. 5801	Generator House	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 6223	Electrical Station	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 6225	Electrical Station	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 6407	Electrical Station	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5547	200,000 Gallon Tank	1966	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5548	Steam Plant	1966	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Agricultural/ Occupational Therapy Facilities	LACO No. 1207	Work Preparation Center	1925*	Integrity	High	Contributor (Primary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1283	Trunk Storage	1915	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1335	Brooder House/Vivarium Annex	1929	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Moderate	
				Architectural Merit	Moderate	
	LACO No. 1284	Grain Tank	Unknown	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Agricultural/ Occupational Therapy Facilities (cont.)	LACO No. 1373	Grain Tank	Unknown	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1374	Grain Tank	Unknown	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Maintenance/ Support	LACO No. 1275	Workshop	1917	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1276	Lock Shop	1913	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	Moderate	
	LACO No. 1278	Garage and Storage	1924	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1277	Garage	1925*	Integrity	Moderate	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1279	Garage	1925*	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1356	Tool House	1926	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1280	Garage/Storage	1928	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1268	Storage	1932	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Maintenance/ Support (cont.)	LACO No. 1270	Garage	1932	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 1357	Landscape Office	1938	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 954	Lumber Shed	1942	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 3348	Garbage Can Room	1951	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 1287	Oil and Storage	1909	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1286	Garage/Storage	1920	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1267	Transportation Office	1930	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1259	Wheel Chair Repair	1932	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1464	Shed	1945*	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 2492	Toilet Room	1948	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Maintenance/ Support (cont.)	LACO No. 2437	Metal Shed	1949	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 3368	Shed	Unknown (Pre-1952)	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 2494	Shed	Unknown (Pre-1952)	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1353	Greenhouse	Unknown (Post-1952)*	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 3390	Prosthetic Shop	1953	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 3820	Loading Dock	1954	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 4121	Garage	Unknown (Post-1954)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1379	Garage	Unknown (Post-1954)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 4118	Garage	Post-1965	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Landscape Features	N/A	RLA Site Plan	1888+	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	N/A	
	N/A	Moreton Bay Fig Tree	1900	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	N/A	
	LACO No. 1265	Shelter	c. 1933*	Integrity	High	Contributor (Secondary)
				Visual Prominence	High	
				Date of Construction	Low	
				Architectural Merit	Moderate	
	LACO No. 1290	Shelter	Unknown (1926-1930)	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1240	Shelter	Unknown (Post-1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1243	Open Shelter	Unknown (Post-1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1246	Canopy	Unknown (Post-1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1251	Open Shelter	Unknown (Post-1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 3020	Bus Stop	Unknown	Integrity	N/A	Non-Contributor (Not Extant)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 3021	Bus Stop	Unknown	Integrity	Yes	Non-Contributor (Does not contribute to Historic District's significance)
				Visual Prominence	Yes	
				Date of Construction	Yes	
				Architectural Merit	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2018)
Landscape Features (cont.)	LACO No. 3022	Bus Stop	Unknown	Integrity	Yes	Non-Contributor (Does not contribute to Historic District's significance)
				Visual Prominence	Yes	
				Date of Construction	Yes	
				Architectural Merit	Yes	

The Focused Feasibility Study was developed to provide the County with up-to-date information on the various resources in the Historic District and to inform findings regarding the feasibility/infeasibility of the various Project alternatives and mitigation measures considered in the EIR with regard to cost, ability/inability to meet Project objectives, and ability/inability to reduce environmental impacts to historical resources within the Historic District. The baseline data presented in the architectural, structural and cost analysis reports—which together comprise the analytic portion of the Focused Feasibility Study—are to be used to inform consideration of Project alternatives as analyzed in the RLA South Campus EIR. The Focused Feasibility Study provides the data necessary to support consideration of a range of alternatives to the Project that would reduce significant impacts while still meeting the majority of Project objectives, as feasible. This Focused Feasibility Study updates the economic data and architectural and engineering assessments for all Individually eligible buildings and the Primary and Secondary Contributors in the Historic District. The data presented in the Focused Feasibility Study provides substantial evidence to inform the consideration of alternatives, analysis of impacts, and mitigation measures for historical resources in the RLA South Campus Project EIR.

Feasibility of Mothballing Historic Buildings

The Focused Feasibility Study also considers whether the existing historic buildings could be retained and preserved by mothballing the buildings for future use, and provides costs for mothballing them for a period of up to ten years to allow enough time for consideration of their future rehabilitation and reuse. As described in the NPS's *Preservation Brief #31: Mothballing Historic Buildings* (Preservation Brief #31), mothballing is the process of "de-activating" a building for an extended period time (typically a period not to exceed 10 years) at the point "when all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition." The word "mothballing" describes the process of closing up a building in order to temporarily "protect it from the weather as well as to secure it from vandalism." As also described in Preservation Brief #31, this process can "be a necessary and effective means of protecting the building while planning the property's future, or raising money for a preservation, rehabilitation or restoration project." The mothballing approach provides the County with a period of time (10 years) in which to find new and appropriate uses for buildings retained so that they may be rehabilitated and adaptively reused in order to achieve the goals and objective of the proposed project. A copy of Preservation Brief #31 is included in **Appendix C**.

Purpose of the Focused Feasibility Study

The purpose of this Focused Feasibility Study is to provide the County with substantial evidence that can be used to assess the feasibility of either mothballing or rehabilitating and adaptively reusing any of the 37 Primary and Secondary contributors in the Historic District (in addition to one historic building that already has been rehabilitated and will be retained as part of the Project). As previously mentioned, the Focused Feasibility Study updates the economic data previously provided in the 2007-2009 Sapphos Feasibility Study, in addition to providing updated architectural and structural condition assessments for all Individually Eligible buildings, Primary Contributors, and Secondary Contributors as identified in the June 20, 2018 CDF Analysis memorandum (see Appendix B). The data contained with this Focused Feasibility Study will be considered by the County when rendering discretionary decisions that have the potential to affect the Historic District located on the RLA South Campus.

Goals and Objectives

The proposed Project aims to consolidate the County's existing ISD and Probation Headquarters, which are currently distributed over various locations for each individual department into one location and use of the underutilized County-owned RLA Rancho Los Amigos South Campus. The existing County ISD and Probation Department Headquarters buildings have been identified as being in poor physical condition, and lack the capacity to expand to allow for further department consolidation into one location. Moreover, the facilities are leased by County, rather than owned by them; because leasing buildings is generally a more expensive proposition than owning them, the County's preference is to relocate County uses into County-owned buildings whenever it is practicable to do so. The RLA South Campus has been identified as an available County-owned property that is of sufficient size to allow for consolidation in a central location within proximity to existing County facilities, as well as to house the proposed new ISD and Probation Department Headquarters buildings and new County Office Building. In its current condition, with the various abandoned, and structurally unstable buildings which contain hazardous materials, the RLA South Campus presents an environmental hazard and a threat to public health and safety. Unless these issues are remediated, the RLA South Campus will remain inaccessible to the public.

The proposed Project would create a modernized and revitalized County administrative campus within the Project Site. In doing so, the proposed Project would help eliminate existing blight within the RLA South Campus, as well as structural safety concerns, environmental hazards, and physical impediments to potential, though currently not defined, future redevelopment of the RLA South Campus. The Project is intended to create a new civic center within the RLA South Campus that will serve important County functions, as well as improve overall visual and hazard concerns for the larger surrounding community. As set forth by the CEQA Guidelines, the County has identified the following objectives that are important to achieving the Project's underlying purpose:

- House the existing and future administrative and functional needs of the County's ISD and Probation Department headquarters.

- Allow for the construction of facilities that allow the County to provide superior services through proximate and efficient inter-departmental and cross-sector collaboration that improves the quality of life for the people and communities of Los Angeles County, and to "de-institutionalize" government by providing facilities which make services more accessible to constituents.
- Eliminate the majority of identified environmental and public health concerns associated with the presence of hazardous materials throughout the RLA South Campus, within existing deteriorated buildings and in subsurface groundwater and soils.
- Eliminate public safety concerns associated with the existing abandoned campus setting including vandalism, arson, theft, structural instability, and habitation by individuals and urban wildlife.
- Develop, in the most cost-effective manner, County facilities that meet current seismic performance standards, whether comprised of new buildings or through the retrofit, reuse, and rehabilitation of existing buildings.
- Develop state-of-the-art County facilities that demonstrate the County's commitment to sustainability through achievement of a Leadership in Energy and Environmental Design (LEED) Gold rating, or better, for all new buildings.
- Develop County facilities in a safe environment that would increase use of the RLA South Campus by County staff and visitors, and enhance the health and wellbeing of the RLA South Campus as an integral part of the surrounding community.
- Recognize unique, culturally important historic elements of the RLA South Campus by retaining selected buildings, open spaces, and landscape features to the extent economically and environmentally feasible.
- Avoid or minimize land acquisition, entitlement, and other siting costs and avoid potential land use conflicts by prioritizing the reuse of County-owned property.
- Provide proximity to other surrounding County facilities, provide a visible gateway to the RLA South Campus from Imperial Highway, and establish a common character and tone for the RLA South Campus.
- Enable the RLA South Campus to complement potential future projects in immediate proximity to the RLA South Campus.
- Fulfill the spirit and intent of historic preservation, as set forth in the Secretary of the Interior's Standards for the Treatment of Historic Properties (Secretary's Standards), by ensuring the proper care and treatment of the most important historical resources on the RLA South Campus, to further convey local history and foster community identity for future generations.

In order to assist the County in achieving all of its goals and objectives that relate to the treatment of historical resources on the RLA South Campus—such as fulfilling the spirit and intent of historic preservation, as set forth in the Secretary's Standards—ESA was engaged in several different efforts to prepare documents in support the Project, as follows: an updated historic resource evaluation of the District, which entailed a survey conducted in 2017 and the preparation of a report submitted to the County (the 2018 ESA Historic District Evaluation Report); the CDF analysis which was submitted to the County in a memo dated June 20, 2018; and this Focused Feasibility Study, which updates the economic data and building condition assessments provided

in a previous feasibility study for the property, the 2007-2009 Sapphos Feasibility Study. All of these documents were prepared in support of the proposed Project to inform development and consideration of alternatives and mitigation measures.

Relationship to Previous Investigations

Previous Surveys and Evaluations

The Historic District has been previously evaluated four times: in 1995, 2004, 2007, and 2017. The Historic District was determined eligible through the Section 106 process in 1995 and is listed in the California Register. The Historic District was originally recorded in 1995 by HRG and determined eligible for the National Register under Criterion A—for its association with events that have made a significant contribution to the broad patterns of history—through the Section 106 process by a consensus among the County, FEMA, the OHP), and the Advisory Council. HRG identified 76 contributors and determined the Historic District eligible for the National Register under Criterion A and for the California Register under Criterion 1. With this determination of eligibility, the Historic District was listed in the California Register for its association with events that have made a significant contribution to the broad patterns of our history, for its importance in the early healthcare of the County's indigent population, and later treatment of patients with chronic illnesses or mental disorders.[26]

The Historic District was resurveyed in 2004 by Post/Hazeltine Associates and recommended ineligible due to a lack of integrity.[27] However, Post/Hazeltine Associates identified 11 buildings and structures as individually eligible as distinctive examples of a type, period, or method of construction under National Register Criterion C and California Register Criterion 3, as follows: LACO Nos. 1100, 1101, 1177, 1178, 1238, 1261, 1262, 1263, 1300, 1301, and 1302.

The Historic District was resurveyed again between 2007 and 2011 by Sapphos, who concurred with HRG's original eligibility determination, but recommended that the period of significance be extended to 1952.[28] Sapphos also recommended nine buildings and structures individually eligible for listing in the National Register under Criterion C and California Register under Criterion 3 for architectural distinction: LACO Nos. 1100, 1101, 1177, 1238, 1262, 1263, 1300, 1301, and 1302.

The Historic District was resurveyed again in 2017 by ESA. The findings of this survey were subsequently compiled in a report— the 2018 ESA Historic District Evaluation—that resulted in different findings with respect to some of the buildings on the site than the previous studies, as is described in more detail in the section that follows.[29]

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26 Christy J. McAvoy, *1994 Northridge Earthquake Project Review*, 1995.

27 Post/Hazeltine Associates, *Intensive Historic Structures/Site Survey for the South Campus of Rancho Los Amigos Rehabilitation Center*, prepared for The County Administrator's Office, Los Angeles County, California, 2004.

28 Sapphos Environmental, Inc., *Rancho Los Amigos Historic District: Update Report*, 2011.

29 Environmental Science Associates, Margarita Jerabek, et al., *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Evaluation Report,* prepared for the County of Los Angeles, June 2018.

2018 ESA Historic District Evaluation Report

As noted earlier in this Study the Historic District was previously determined eligible for the National Register under Criterion A by a consensus through the Section 106 process and was listed in the California Register under Criterion 1 for its association with the early healthcare of the County's indigent population and later treatment of patients with chronic illnesses or mental disorders. The Historic District was assigned a period of significance of 1888-1945. The Historic District was resurveyed in 2004 by Post/Hazeltine Associates and recommended ineligible. It was resurveyed again in 2007-2011 by Sapphos, who concurred with the original eligibility determination, identifying 68 contributors within the Historic District. Sapphos also recommended extending the period of significance to 1952.

In the most recent survey, which was conducted by ESA in 2017 and submitted to the County as the 2018 ESA Historic District Evaluation Report, the Historic District was reevaluated under the following expanded historical and architectural themes based upon additional research: Advancements in Public Health and Medical Care (1870-1920); Housing the Poor in the California (1850-1930); Los Angeles County Poor Farm and Rancho Los Amigos (1887-1952); Early Hospital Architecture (1880-1930); Craftsman Architecture (1905-1930); Neoclassical Revival Architecture (1885-1930); Renaissance Revival and Brick Vernacular (1895-1935); and Spanish Colonial Revival (1915-1940).

As based upon extensive research and fieldwork conducted as part of the 2017 ESA Survey, ESA concluded that the Historic District remains eligible under National Register Criterion A and California Register Criterion 1 at the local level of significance. Furthermore, the Historic District appears eligible under Los Angeles County Criterion 1. The Los Angeles County Poor Farm and its evolution into a long-term healthcare facility (Rancho Los Amigos) during the late nineteenth and early twentieth century reflect broader trends in medical history across the United States. The Historic District's development over time illustrates changing approaches to healthcare and the treatment of Los Angeles County's indigent population. Additionally, the Historic District appears eligible under National Register Criterion C as a distinguishable entity whose components may lack individual distinction (i.e., a district) and meets Los Angeles County Criterion 5 as a resource determined eligible for the National Register and listed in the California Register. The 2017 ESA Survey also concluded that the Historic District's period of significance extends to 1952, when the adjacent agricultural lands were subdivided for residential development, reflecting the completion of the subject property's transformation into a long-term healthcare facility. Finally, the 2017 ESA Survey also concludes that the Historic District's boundary extends near the southeast corner to include the entirety of the Site Plan. The new Historic District boundary encompasses additional portions of Consuelo Street, Bonita Street, and Dahlia Avenue and the associated landscape areas east of the Administration Building (LACO No. 1100). These elements of Rancho Los Amigos' site plan contribute to the Historic District's character and setting and continue to exhibit a high level of integrity from the period of significance. The new Historic District boundary follows the natural contours of the landscape and would contain the contiguous grouping of 61 buildings and features contributing to the Historic District's significant association with healthcare in Los Angeles County during the late nineteenth and early twentieth centuries.

The Historic District continues to meet the National Register and California Register integrity requirements, retaining its integrity of location, design, workmanship, materials, setting, feeling, and association. The Historic District remains in its original location since it opened as a poor farm in 1888. Although the Historic District no longer reflects Kysor, Morgan, and Walls' original design for the Poor Farm, as constructed in 1888, later changes to the subject property have acquired significance under National Register Criterion A, California Register Criterion 1, and Los Angeles County Criterion 1.

Furthermore, many of the buildings constructed during the period of significance (1888-1952) remain largely intact with few alterations, are representative examples of their property type and style and continue to convey their function and have acquired significance under National Register Criterion C. Of the 109 buildings, structures, and features identified within the Historic District, there are 61 contributors, representing seven different building types, that reflect their different uses and the overall function of the subject property as it evolved into a long-term healthcare facility. The remaining 48 buildings, structures, and features within the Historic District are non-contributors.

A majority of the buildings and structures in the Historic District lack individual distinction. Their historical significance is directly tied to the overall use of the subject property as a poor farm or a long-term healthcare facility and therefore do not exhibit individual significance and are not eligible for individual listing on the National Register or California Register. However, the 2017 ESA Survey identifies five buildings and structures as individually eligible under Criteria C/3/3 due to their architectural merit. These include the following: Administration/Safety Police Building (LACO No. 1100), Casa Consuelo (LACO No. 1238), and the Power Plant (LACO No. 1300), Water Tower (LACO No. 1301), and Shop, Laundry and Ice Plant (LACO No. 1302). Further, the Moreton Bay Fig Tree appears to meet the significance requirements of Los Angeles County Criterion 6 and 7 as an individual feature. Los Angeles County Criterion 6 recognizes trees that are the largest or oldest of their species in the County, while Criterion 7 recognizes trees, landscapes, or other natural features that are a defining or significant feature of a neighborhood.

County Data Center EIR

The County previously developed a proposed project called the County Data Center that would have constructed two new buildings—a 58,000 square foot data center and 27,000 square foot office building—on the RLA South Campus. As part of this proposed project, two historic buildings were proposed for rehabilitation and adaptively reuse in order to house appetent uses, including offices and a renewable source of power. Also as part of County Data Center EIR, thirteen of the 68 extant contributing buildings within the Historic District at that time would have been demolished to facilitate the construction of the proposed County Data Center: 2 Staff Cottages (LACO Nos. 1121 and 123), 10 Patient Wards (LACO Nos. 1189 through 1198), and the Kitchen and Dining Building (LACO No. 1295)." The 2007-2009 Sapphos Feasibility Study was prepared in support of the County Data Center EIR. However, the County Data Center project did not go forward. Nonetheless, the 2007-2009 Sapphos Feasibility Study prepared in its support, which is described in the following section, remains a useful

document today as the County proceeds with a new project for the redevelopment of the RLA South Campus. However, the economic data and the condition assessments of individual buildings contained within the 2007-2009 Sapphos Feasibility Study are also a decade old and in need of an update, which is the intended purpose of this Focused Feasibility Study.

2007- 2009 Sapphos Feasibility Study (also known as the "Tiers 1-4 Feasibility Studies")

The County previously completed a feasibility study for the subject property in 2007-2009 in support of the Data Center EIR project. The 2007-2009 Sapphos Feasibility Study was prepared in order to meet that project's objectives at the time and in support of the EIR to analyze the data center project. However, as described earlier in this Study, the project analyzed in that EIR was never realized, and a new project has since been developed by the County. In 2018, the County requested that ESA evaluate the previous 2007-2009 Sapphos Feasibility Study to provide recommendations as to what portions of it were applicable to the new project, and which parts of the feasibility study needed to be updated. To this end, the County provided to ESA the 2007-2009 Sapphos Feasibility Study, with a request for its review.

In the period from 2007-2009, Sapphos Environmental Inc. prepared a feasibility study—the 2007-2009 Sapphos Feasibility Study—for the subject property on behalf of the County. For the purpose of the investigation, the Historic District was divided into four tiers that corresponded with a complex organizing scheme assigned to the buildings on the subject property with regard to their location, their individual eligibility for listing in the NRHP and the CRHR, their potential as contributors for rehabilitation and adaptive reuse, and the balance of the buildings and structures identified as district contributors in the Determination of Eligibility. The scope of the investigation for the 2007-2009 Sapphos Feasibility Study included the consideration of public, private, not-for-profit, and mixed-use redevelopment scenarios involving the entire area of the Rancho Los Amigos Historic District, and it separated the Historic District's contributing buildings and features into four tiers based upon building groupings and geographic locations. A report was then generated for each tier, presenting Environmental Data, Technological Data, Social Data, and Economic Data assessing the feasibility of reusing each contributing building within the tier. Therefore, it is important to note that the 2007-2009 Sapphos Feasibility Study is also referred to in previous planning documents as the "Tiers 1-4 Feasibility Studies," reflective of the organizational scheme for the overall study. However, for purposes of this Focused Feasibility Study, these previous studies will be collectively referred to as the 2007-2009 Sapphos Feasibility Study. As previously described, this Focused Feasibility Study is intended to update the economic data and the condition assessments of individual buildings provided within the 2007-2009 Sapphos Feasibility Study, while also retaining for use the components of the 2007-2009 Sapphos Feasibility Study that are still relevant to the subject property today as will be discussed in more detail in the following section.

The Necessity for a Focused Feasibility Study to Inform the Alternatives and Mitigation

The previous 2007-2009 Sapphos Feasibility Study, which was prepared in support of the County Data Center EIR rather than the currently proposed Project, focused on reuse of the existing buildings and did not consider mothballing. Furthermore, the data is more than ten years old. Thus, the data previously compiled in the 2007-2009 Sapphos Feasibility Study is not fully applicable to the proposed Project. Therefore, a new feasibility study focused on the current requirements and costs of rehabilitating and adaptively reusing historical resources for current County needs as well as determining the costs for mothballing became necessary.

The previous 2007-2009 Sapphos Feasibility Study was reviewed to determine what, if any, information applies to the proposed Project objectives. Review by ESA of the Environmental Data, Technological Data, Social Data, and Economic Data for each building revealed that while some of the data from the 2007-2009 Sapphos Feasibility Study remains useful today, an updated analysis was strongly recommended as based upon the results of the data assessment review, as shown in the table below **(Table 5)**.

TABLE 5
DATA ASSESSMENT SUMMARY

Environmental Data	Reuse As-Found Drawings
Technological Data	Update Architectural and Structural Conditions Assessments
Social Data	Apply Current Project Objectives
Economic Data	Update Economic Figures Based on New Assessments, Current Project Objectives, and Contemporary Economic Figures

During the data assessment review, ESA concluded that a majority of the information provided in the Environmental Data section of the 2007-2009 Sapphos Feasibility Study already had been compiled and incorporated by ESA during the preparation of the 2018 Historic Resources Evaluation for the Historic District, including a construction history of the buildings and the discovery of available historic plans. Moreover, the as-found drawings prepared by Sapphos appeared reusable for an updated feasibility study since none of the buildings on the RLA South Campus had been significantly altered since the drawings first were prepared in 2008 and 2009. While it is true that some of the buildings on the RLA South Campus have succumbed to vandalism and arson in the interim decade since the 2007-2009 Sapphos Feasibility Study was prepared, the overall dimensions and floor plans of the buildings—as recorded on the as-found drawings— also has remained the same. Most of the Technological Data presented in the previous 2007-2009 Sapphos Feasibility Study can be reused, such as the information on the materials and structural systems present in the buildings: however, it was determined by ESA that the analysis of the material and structural conditions of each of the individual buildings considered for retention on the RLA South Campus should be updated to account for the recent incidents of arson and the natural deterioration that has occurred since the studies were completed.

The previous 2007-2009 Feasibility Study considered a variety of potential reuses for all of the buildings in the Historic District. The potential uses considered included public (County office space), private, not-for-profit, and mixed-use redevelopment scenarios. Of these scenarios, the County office use appeared most applicable to the current proposed Project. However, the previous 2007-2009 Feasibility Study was focused not on the current proposed Project, but instead on the County's Data Center project that was proposed at the time. Therefore, ESA recommended to the County that the previous 2007-2009 Feasibility Study should be updated with the current Project objectives in mind in order to better support the Draft EIR. Furthermore, the 2007-2009 Sapphos Feasibility Study presented Economic Data based on labor and construction costs in 2007-2009. However, the costs to rehabilitate the retained buildings was believed likely to be different today from the 2007-2009 labor and constructions costs as based upon updated architectural and structural conditions assessments, the current needs of the Project, and contemporary economic figures for labor and construction costs. Given these reasons, the County determined that an updated feasibility study focused on revising the economic data presented in the previous 2007-2009 Sapphos Feasibility Study would be necessary and engaged ESA to prepare this Focused Feasibility Study.

Scope of the Focused Feasibility Study

The scope of the Focused Feasibility Study includes the compilation of five types of substantial evidence—in the form of Technical Reports, as described in more detail below— for each of the buildings considered for retention for the County's use in evaluating the feasibility of the alternatives, as follows: an architectural assessment, a structural assessment, a mothballing assessment, a cost plan for rehabilitation/adaptive reuse, and a cost plan for mothballing. Moreover, the Focused Feasibility Study evaluated each of the 38 buildings that would be considered for either rehabilitation or mothballing in the Project alternatives [with the exception of the one building that already has been rehabilitated, the Administration/Safety/Police Bldg. (LACO No. 1100)]. As described earlier in this Study, the selection of buildings studied included all of the Individually-Eligible Contributors; the Primary Contributors; and the Secondary Contributors. These buildings were selected as the level of integrity, visual prominence, date of construction and architectural merit of these particular buildings on the RLA South Campus substantially contribute to the significance of the subject property. The Tertiary Contributors and the Non-Contributing buildings were not evaluated for the purposes of the Focused Feasibility Study because they do not substantially contribute to the significance of the Historic District.

Study Methods

Historical Research

This Study relied on previous studies and documentation prepared for the subject property, most notably the recent 2018 ESA Historic District Evaluation Report and June 20, 2018 CDF Analysis Memorandum, which provided its evidentiary basis.

Secretary of the Interior's Standards for the Treatment of Historic Properties

According to CEQA, impacts to a historical resource are considered mitigated below a level of significance when the project conforms to the Secretary's Standards. The goal of the Secretary's Standards is to preserve the historic materials and distinctive character of a historical resource. In general, character-defining features are typically identified as the tangible, visual elements of an individual building—including its setting, shape, materials, construction, interior spaces, and details—that collectively creates its historic identity and conveys its historic significance. However, when analyzing a complex property made up of many individual resources —in other words, a historic district—that have varying levels of significance and integrity in relationship to overall entity to which they contribute, it is also a useful planning tool to consider the Historic District as comprised of many individual character-defining features, each corresponding with an individual building and each different in its ability to convey the significance of the Historic District as a whole. The latter, rather than the former, is the approach to character-defining features that is described within this Study.

The Secretary's Standards, as well as the specific guidelines associated with them, make broad-brush recommendations for maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations. They cannot, in and of themselves, be used to make essential decisions about which features of a historic property should be saved and which might be changed. But once an appropriate treatment is selected, the Secretary's Standards provide philosophical consistency to the work. There are Secretary's Standards for four distinct, but interrelated, approaches to the treatment of historic properties: preservation, rehabilitation, restoration, and reconstruction. The Rehabilitation Standards, which are a subset of the Secretary's Standards, are considered the most appropriate treatment approach for the subject property. The Rehabilitation treatment approach allows the most flexibility in terms of allowing for new uses suitable to the County's continued occupation of the site while also retaining the subject property's historic character.

Therefore, this Focused Feasibility Study identifies the Historic District as comprised historic structures, buildings, and features that have been identified as contributing elements to it; as previously discussed, each of these contributing elements to the Historic District is also ranked in terms of being a character-defining feature of the Historic District. This ranking system is intended to facilitate a rehabilitation scheme that maintains the eligibility of the Historic District to the National Register by ensuring that all buildings retained are the most suited to conveying the significance of the Historic District. Furthermore, each building considered for retention in this study would be individually rehabilitated to be in conformance with the Secretary's Standards for Rehabilitation.

Technical Reports

The compilation of the evidence for the Focused Feasibility Study was undertaken by a multidisciplinary team of technical professionals who were engaged in the project as sub-consultants under contract to the County of Los Angeles. The team was led by ESA, and it was supported by the technical and engineering specialists that follow:

- SMS Architects for preparation of both the Architectural (Building Condition) Assessment Reports and Mothballing Reports
- Coffman Engineers, Inc. for the preparation of Structural Assessment Reports
- MGAC for preparation of Cost Plans for both Preservation/Adaptive Reuse and Mothballing

The Focused Feasibility Study also relied heavily on technical studies that were undertaken previously as part of the earlier 2007-2009 Sapphos Feasibility Study. Although the previous feasibility study is no longer applicable to the site in terms of the project that was proposed at the time and is outdated in terms of the costs provided therein, a number of the technical documents that were prepared for that study were still useful for purposes of the current study. These technical documents are as follows:

- Diamond West Engineering, Inc. for as-found historic structures/building surveys
- Mollenhauer Group for as-found historic structures/building surveys

A more detailed description of the scope of work for each of the technical professionals engaged in preparing reports for incorporation into the Focused Feasibility Study is presented in the sections that follow.

Architectural Assessment Reports for Rehabilitation/Adaptive Reuse and Mothballing Reports

As their scope of work for the preparation of the Focused Feasibility Study, SMS Architects reviewed the prior 2007-2009 Sapphos Feasibility Study prepared for the RLA South Campus, as well as previous as-built plans, previous historic resources surveys, the 2018 ESA Historic District Evaluation Report as prepared for the County by ESA, the survey photos of existing conditions that were included within the previously mentioned report, and available hazardous materials data and photos. SMS Architects then conducted a focused site evaluation of all of the buildings that the County was considering for retention on the RLA South Campus, either through preservation/adaptive reuse or mothballing [with the exception of the one building that already has been rehabilitated, the Administration/Safety/Police Bldg. (LACO No. 1100)].

In order to obtain the data necessary for its analysis, SMS Architects conducted an intensive pedestrian survey of the RLA South Campus, taking particular note of any changes in rehabilitation/adaptive reuse/code/program requirements as compared to those presented in the 2007-2009 feasibility study. To achieve the greatest efficiency in terms of both cost and schedule, SMS Architects focused on the Individually Eligible buildings and on representative examples of each building type in cases where more than one example of a building type exists. Following their analysis, SMS Architects prepared a summary report of all its findings organized by building for both preservation/adaptive reuse and mothballing approaches. The analysis included a written condition assessment of each Individually Eligible building, Primary Contributor and Secondary Contributor. Noted in the analysis were updated conditions and changes from the prior feasibility study, notation of character-defining features, needed alterations, modifications, general building information, building summary, updated building code and accessibility requirements, and general Mechanical, Electrical, and Plumbing (MEP) assumptions for building

retrofit. This analysis, as prepared by SMS Architects, provided the basis for the cost analysis for both preservation/adaptive reuse and mothballing of the buildings, as prepared by MGAC, a firm specializing in cost estimating, and as further discussed below.

Structural Assessment Reports

As their scope of work for the preparation of the Focused Feasibility Study, Coffman Engineers conducted a comprehensive review of prior structural and seismic reports prepared for inclusion in the 2007-2009 Sapphos Feasibility Study prepared for the RLA South Campus. Coffman Engineers then conducted a focused site evaluation of all of the buildings that the County was considering for retention, either through preservation/adaptive reuse or mothballing. As part of its work effort, Coffman Engineers conducted an intensive pedestrian survey of the Project Site, noting any changes in the building structural conditions that had occurred since the buildings were last evaluated for the preparation of the previous feasibility study. Seismic evaluation of each of the buildings was based on the current ASCE41-13 *Seismic Evaluation and Retrofit of Buildings* using the "Tier 2" checklists, which are based on meeting a life-safety seismic performance objective. Following the intensive survey and analysis, Coffman prepared both a summary report describing its approach to the Focused Feasibility Study, as well as individual reports for each of the buildings surveyed, which provided a basis for the cost analysis as further discussed below.

Cost Plans for Preservation/Adaptive Reuse and Cost Plans for Mothballing

As their scope of work for the preparation of the Focused Feasibility Study, MGAC developed cost plans, or cost estimates, for all of the buildings that the County was considering for retention on the RLA South Campus, either through preservation/adaptive reuse or mothballing. Cost was based upon a review of the recommendations provided in the architectural and structural reports described above. MGAC provided a summary cost plan, or estimate, for the costs of both preserving/adaptively reusing all of the buildings considered for retention, as well as a summary cost plan for mothballing all of the buildings considered for retention. In addition, MGAC prepared individual cost plans for preserving/adaptively reusing or mothballing each of the buildings considered for retention on the RLA South Campus. These cost plans will be used to inform each of the alternatives in the EIR by allowing them to be compared to one another in terms of the economic data. In addition, costs associated with new construction for the proposed Project were provided to MGAC by the County in order to allow more accurate comparison of each of the alternatives; these costs were incorporated into the cost analyses, where any costs provided by the County was noted.

Focused Feasibility Study Data

As previously described, two different types of reports were prepared by the technical professionals engaged to contribute to the Focused Feasibility Study. One type of report is a summary report that provides a broad overview of the efforts undertaken for each of the five types of assessment conducted for the Focused Feasibility Study (an architectural assessment, a structural assessment, a mothballing assessment, a cost plan for preservation/adaptive reuse, and a

cost plan for mothballing). The other type of report included in the Focused Feasibility Study are the reports specific to each individual building for each type of assessment (again, an architectural assessment, a structural assessment, a mothballing assessment, a cost plan for preservation/adaptive reuse, and a cost plan for mothballing). Reports were prepared for all of the buildings being considered for retention on the RLA South Campus, with the exception of Administration/Safety/Police Building (LACO No. 1100). As stated previously, no analysis of this particular building is provided in the Focused Feasibility Study due to the fact that the building was recently rehabilitated and is now currently occupied. The two types of reports included within the Focused Feasibility Study are described in more detail in the sections that follow.

Summary Reports

As previously described earlier in this Study, two sub-consultants— SMS Architects and Coffman Engineering— were responsible for preparing for the Focused Feasibility Study a detailed analysis, or report, for each of the buildings being considered for retention on the site. In addition, each firm prepared an overview, or summary report, of their approach to the study for the different efforts that each firm was engaged to undertake. Because SMS Architects was engaged to undertake and prepare deliverables for two different work components of the Focused Feasibility Study, the firm also prepared two different summary reports. One summary report describes the architectural approach to the analysis of buildings considered for retention on the site, with the exception of the Administration/Safety/Police Building (LACO No. 1100). No analysis was performed for this particular building at the direction of the County, even though it is one of the 38 buildings considered for retention on the RLA South Campus. This is due to the fact that the building was recently rehabilitated and is currently occupied, and, therefore, is in no need of either rehabilitation or mothballing at this time. The other summary report prepared by SMS Architects describes the approach to mothballing of all buildings considered for retention on the RLA South Campus (again, with the Exception of LACO No. 1100).

Coffman Engineering, the firm responsible for assessing the structural condition of all buildings considered for retention on the site prepared one summary report that describes the firm's approach to the analysis. Finally, GMAC, the cost estimating firm responsible for preparing the cost estimates for the Focused Feasibility Study also prepared two summary reports; one summary provides a detailed cost breakdown of the sum total estimated costs to preserve/adaptively reuse the buildings considered for retention on the RLA South Campus, and the other summary provides a detailed cost breakdown of the sum total to mothball all of the buildings. Both of the cost estimating summary reports prepared by GMAC were based upon the information provided in both SMS Architects and Coffman Engineering's summary reports, as well as the data presented in both firm's individual reports, as described below. The five summary reports—the Summary of Architectural Assessment Reports, the Summary of Structural Assessment Reports, the Summary of Preservation/Adaptive Reuse Cost Plans, the Mothballing Report Summary, and the Summary of Mothballing Cost Plans—are presented in a section to follow.

Individual Reports for all Historic District Buildings Considered for Retention

In addition to the summary reports described above, each of the three sub-consultant firms engaged to prepare reports for inclusion in the Focused Feasibility Study also prepared individual reports for each building considered for retention on the RLA South Campus. SMS Architects prepared individual Architectural Assessment Reports for each building considered for retention on the RLA South Campus as well as individual Mothballing Plan Reports. It is also important to note here that SMS Architects did not prepare Mothballing Plan Reports for the entirety of the buildings considered for retention on the RLA South Campus; this is due to the fact that the County previously had mothballing plan reports prepared by a different consultant for each of the Individually Eligible buildings. Therefore, the County simply provided copies of these earlier mothballing plan reports to SMS Architects for inclusion within the Focused Feasibility Study. However, all of the individual Mothballing Plan Reports for the Primary Contributors and Secondary Contributors also included within this Study were prepared by SMS Architects. Coffman Engineering prepared individual Structural Assessment Reports for each of the buildings. Finally, MGAC prepared two different individual cost estimate reports, or cost plans, for each of the buildings considered for retention on the RLA South Campus; one cost plan reports offers a detailed cost breakdown for the costs associated with preserving/adaptively reusing each individual building considered for retention on the RLA South Campus and the other cost plan report offers a detailed cost breakdown to mothball it for a period of up to ten years for future reuse. These two different cost estimates—the Feasibility Study Cost Plan and the Mothballing Cost Plan—are based upon the information provided in the three reports collectively prepared by SMS Architects and Coffman Engineering.

In total, then, there are five reports for each individual building considered for retention on the RLA South Campus, as follows: an Architectural Assessment Report, a Structural Assessment Report, a Preservation/Adaptive Reuse Cost Plan, a Mothballing Report, and a Mothballing Cost Plan. In sections to follow, the five reports generated for each individual building are grouped together. It is also important to note here that, because two of the Individually Eligible buildings are physically attached to one another—LACO No. 1300 (the Power Plant and Smoke Stack) and LACO No. 1302 (the Shop Laundry and Ice Plant)—these two resources are treated as a single entity for the purposes of the reports. Together, the individual building reports that follow conclude the Focused Feasibility Study as presented here, and they provide the updated building conditions assessments and economic data necessary to inform both the alternatives and the mitigation measures for the proposed Project.

Summaries of Reports for the Feasibility Study

ESA

A Summary of Architectural Assessment Reports

Rancho Los Amigos South Campus Project Scope Summary

SMS Architects has been retained by Environmental Sciences Associates (ESA) to conduct an Architectural Condition Assessment report update Assessment for the County of Los Angeles for those structures defined as Primary, Primary/ Individually Eligible and Secondary in the ESA Historic District Evaluation Report of June 2018.

The assessment for the evaluation of the individual buildings assumes that the buildings will be rehabilitated by the County of Los Angeles for use as administrative offices and that the building rehabilitation will adhere to the Secretary of Interior Standards for all work.

An archival records search and review of previous reports and available documents along with site visits are the basis of these building evaluations and will be combined with the updated structural assessment report by Coffman Engineers.

The building descriptions and Statement of Significance as noted in the individual building reports were derived from previous reports and information most notably from Sapphos Environmental reports from 2008 and noted in the Sources of Information section below.

Sources of Information

A comprehensive investigation of available documentation for the Historic District were reviewed and utilized in this report. Additionally, 3 site visits were performed in February and March 2019 to review and photograph the current state of the structures. Some structures were unable to be accessed due to concerns regarding either environmental and or structural safety conditions.

Previous reports utilized for the architectural update include:

- Sapphos Tier 1 Architectural Condition Assessment report August 7, 2007 with Kennard Design Group February 23, 2007
- Diamond West South Campus Historic Structures Survey January 29, 2007
- Sapphos Tier 4 Architectural Condition Assessment report May 23, 2008
- Sapphos Updated Continuation Sheets June 2010
- Sapphos Updated Los Amigos Historic District Update report July 15, 2011
- ESA District Historic Evaluation Report June 2018

Some or all of the above-mentioned reports have been quoted in part in the building evaluations sections.

General Comments

All evaluated structures have substantially deteriorated since the Sapphos Updated Tier 4 Architectural Condition Assessment report of 2008 and the Sapphos updated Los Amigos Historic District Update report of 2011. The structures have deteriorated dues to vandalism, water damage, arson related fire and general exposure over the 8 years since the last evaluation. Many of the cottage type structures have had the buildings stripped of flashing, electrical, plumbing and other elements for their copper which has then accelerated further damage to the structures.

General Recommendations

- Remove all debris, mold and hazardous materials from the buildings, thoroughly clean all surfaces. This work shall be completed and disposed by a qualified Hazardous materials Contractor under all Federal, State and Local requirements.

- Remove all perimeter landscape and hardscape around structures.
- Remove all existing mechanical, electrical and plumbing systems from building.
- Remove all interior non-bearing walls and finishes not deemed as a character defining feature.
- Any note for “replace in Kind” will require that element to be a custom-built element replicating exact dimensions, style and finish of replaced item.
- Reconfigure all interior spaces for updated office use, remove all suspended ceiling assemblies and flooring.
- Utility and site infrastructure upgrades for the site were not reviewed or included in this report.
- All electrical, Mechanical, plumbing, fire sprinklers and alarms communication systems will be required to be upgraded to latest Building and Planning codes.

Codes

Upgrades structures are evaluated and will need to conform to the current following Codes;

State of California

Building Code	2019 CBC	Historic Building Code	2019 CHBC
Electrical Code	2019 CEC	Fire Code	LA County Fire Code
Mechanical Code	2019 CMC	Green Building Code	2019 CGBSC
Plumbing Code	2019 CPC	Energy Code	2019 CEEC

Title 24 California Code of regulations for Accessibility
Federal Americans with Disabilities (ADA) requirements

It is assumed that code and energy requirements will need to be updated over the time period of redevelopment of the project buildings. The buildings will be adapted to be County of Los Angeles Green Energy standards and policies.

The California Historic Building Code (CHBC) will be utilized where possible, but it is not anticipated to be implemented to reduce any life safety elements required of the CBC.

B Summary of Structural Assessment Reports

Structural Assessment Objective

The purpose of the following structural evaluation reports is to evaluate the feasibility of bringing each building to a Life Safety Performance Level for future use and occupancy. The Life Safety Performance Level is defined in the 2013 edition of the American Society of Civil Engineers (ASCE) Standard No. 41, entitled Seismic Evaluation and Retrofit of Existing Buildings (ASCE 41-13). This is the edition adopted by the current California Building Code for the adaptive reuse of existing structures in effect at the time the reports were written. The definition of a Life Safety Performance Level in ASCE 41-13 is as follows:

> *"The post-earthquake damage state in which a structure has damaged components but retains a margin against the onset of partial or total collapse."*

It is further explained as:

> *"The post-earthquake damage state in which significant damage to the structure has occurred but some margin against either partial or total structural collapse remains. Some structural elements and components are severely damaged, but this damage has not resulted in large falling debris hazards, either inside or outside the building. Injuries might occur during the earthquake; however, the overall risk of life-threatening injury as a result of structural damage is expected to be low. It should be possible to repair the structure; however, for economic reasons this repair might not be practical. Although the damaged structure is not an imminent collapse risk, it would be prudent to implement structural repairs or install temporary bracing prior to reoccupancy."*

It should be noted that buildings designed or retrofitted to a Life Safety Performance Level are expected to sustain damage in a moderate earthquake, and the building occupants may have some injuries. The Life Safety designation is meant to protect occupants from life-threatening injury or death and prevent partial and total collapse. Furthermore, existing buildings that are retrofitted to meet today's Life Safety Performance Level are not expected to perform to the same level as newly constructed buildings.

The recommendations in this report are general recommendations of potential retrofit approaches based on the basic construction type and general condition of each building. These recommendations are based on Tier 1 checklists, site visits, review of existing drawings where available, and engineering experience with building of these materials and of this era. The checklists and experience can only identify "possible deficiencies" where needs for improvement or strengthening are likely. The scope of this report does not enable a definitive list of deficient elements in most cases. Comprehensive structural analysis and calculation as well as material testing and retrofit design are beyond the scope of this report. Selecting the most efficient retrofit measure, determining specific retrofit steps, and evaluating these buildings to higher levels of performance will require significantly more investigation, testing, and analysis.

Structural Assessment Approach

The descriptions, assessments, and recommendations in the structural reports are based on site observations of the buildings, performed by Coffman Engineers in January through May of 2019. The structural observations were limited to structural items that could be easily accessed and observed given the constraints of time, space, and safety. It was beyond the intent and scope of this report to examine all visible areas of the structure. There may be conditions that were hidden or not readily apparent that, if discovered, would change the recommendations of this report.

Coffman had previously performed an observation and feasibility assessment of the same property for a report prepared by Sapphos Environmental in 2007-2008. This previous assessment, and photos from the previous observation, are mentioned in this report where the previous findings are considered to still be relevant. While much of the assessment and retrofit approach described in this report is similar to the content of the 2007 report, there are differences.

In the thirteen years that have passed between site observations, time, weather, fires, seismic activity, high winds, water intrusion, soil settlement, and vandalism have worsened the conditions at the site. Additionally, changes to the building code have led to higher expected earthquake forces and more stringent retrofit requirements. Since the writing of the original 2007 report, several California cities, including the City of Los Angeles, have adopted multiple new seismic retrofit ordinances. Although the County of Los Angeles has not yet officially adopted the most recent ordinances, the ordinances are part of an increased effort within the region and within the local structural engineering industry to increase seismic safety within the community. The adoption of these new ordinances recognizes the need to improve archaic buildings with known high earthquake risks in order to improve public safety. One major structure type addressed in these ordinances is pre-1970's concrete buildings, now being labeled as "Non-ductile Concrete Buildings." In this type of structure, the reinforcement, detailing, material variance, and design commonly represents a high risk of significant damage and risk to occupants during a moderate seismic event. Many of the masonry and concrete buildings on this site have those same risks and concerns.

C Summary of Preservation/Adaptive Reuse Cost Plans

FEASIBILITY STUDY COST PLAN

Rancho Los Amigos South Campus
Adaptive Reuse

environmental science associates 233 wilshire boulevard, suite 150, santa monica, california 90401

January 17, 2020
Project No:E6130.110

Report by MGAC

Jose A. Ramirez | 213-417-7541 | jramirez@mgac.com

MGAC

Feasibility Study Cost Plan

Contents

	Page Nos.
Project Overview	1
Basis of Cost Plan	2
Project Budget Allocation	3
Overall Summary	5
Overall Summary by Building	6
Cost Estimate Details	see report per Building

Description

This study analyzes the cost associated with adaptive reuse of certain buildings on the existing Rancho Los Amigos South Campus located in the City of Downey, California. The project includes the existing buildings with eligibility status as follows:

1. Primary, Individually - Eligible
2. Primary Contributor
3. Secondary Contributor

Building Design

The adaptive reuse for office occupancy generally includes the following:

Rehabilitation and upgrade of the building structure and foundation to ensure structural integrity and compliance with current seismic code.

Restoration, repair (where possible) or replacement including but not limited to exterior cladding, roofing, windows, doors, interior partitions, interior finishes & staircases; allowance for new built-in furnishing, fixed accessories and casework, function equipment, elevators, plumbing, mechanical, electrical, fire protection systems and associated demolition works.

Allowance for sitework includes site clearing & grading, paving, site structure, fencing, gates, landscaping & irrigation, storm drainage, site lighting and site utilities.

Enhanced sustainability strategies per NPS guidelines, i.e. high efficiency HVAC & controls, commissioning including enhanced commissioning, PV panels on flat roof, high efficiency lighting with daylight controls and occupancy sensors, BMS systems, sustainable site features such as permeable paving, stormwater management, drought tolerant plants. Wholesale removal of any historic materials or features or significant alteration to the historic character of the buildings is not included (not required).

Procurement

The cost plans assumes that the project will be procured as a design-bid-build contract, based on competitive bidding for the general contract and all subcontract packages.

Documents / Drawings

The cost plan is based on the following:

SMS Architects Report

Coffman Engineers Report

Site visit

Discussion with ESA, SMS Architects and Coffman Engineers

Schedule

The cost plans assumes a construction start date of January 2021 with a construction duration of 36 months

Assumptions / Clarifications

The cost plan includes construction cost at current pricing level. Allowance for escalation is included in the overall summary.

Owner soft costs allowances are included below the construction cost to cover design fees, project management fees, permit fees, furniture fixture & equipment, change order contingencies, owner contingency and the like.

The contractor will have full access to the site during normal working hours

The contractor will be required to pay the prevailing wages

There will not be small business set aside requirement

There are no phasing requirements

Enhanced sustainably strategies per NPS guidelines included. Wholesale removal of any historic materials or features or significant alterations to the historic character of the building not included (not required)

Pricing

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this document. Unit rates have been obtained from historical records and/or discussion with contractors. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated. The mark-ups cover the costs of field overhead, home office overhead and profit and range from 15% to 25% of the cost for a particular item of work.

Pricing reflects probable construction costs obtainable in the project locality on the date of this statement of probable costs. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors and general contractors, with a minimum of 3 bidders for all items of subcontracted work and 3-4 general contractor bids. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since MGAC has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market conditions at the time of bid, the statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents MGAC's best judgement as professional construction consultant familiar with the construction industry. However, MGAC cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

The information below identifies the assumptions included in this cost report relative to allocation of costs. Items listed under construction costs are included in the cost estimate and are anticipated to be part of the construction contract. Items listed under project soft costs are not included in the cost estimate and are assumed to be provided under a separate budget. Items listed as "not applicable" are assumed not to be included in any budget as the item is not required.

	Item	Project Capital Costs			Notes.
		Construction Cost.	Project Soft Cost.	Not Applicable.	
I.	PROPERTY ACQUISITION / DEVELOPMENT				
	Removal of existing buildings and structures			√	
	On-Site Utilities Relocation and/or Removal			√	
	Off-Site Utilities Improvements			√	
	Connection to Utilities (charges and fees)		√		
	Street/sidewalk improvements		√		
	Moving and Relocation Expenses			√	
II.	HAZARDOUS MATERIAL ABATEMENT				
	Building	√			allowance
	Site	√			allowance
III.	PROFESSIONAL SERVICES				
	Architecture and Engineering Design Fees		√		
	Project Management Fees		√		
	Geotechnical & Survey		√		
	Materials Testing & Inspection		√		
	Third Party Commissioning		√		
	LEED Consultant Fees		√		
	LEED Certification Fees		√		
IV.	SYSTEMS, FURNISHINGS & EQUIPMENT				
	a. BUILDING SYSTEMS				
	Uninterruptible Power Supplies (UPS)			√	
	Security Cabling & Equipment	√			
	Telecom / AV / Data Network; Routers, Switches		√		
	Communication Cabling	√			
	Audio-Visual Equipment and Cabling		√		
	Building Controls Systems	√			

The information below identifies the assumptions included in this cost report relative to allocation of costs. Items listed under construction costs are included in the cost estimate and are anticipated to be part of the construction contract. Items listed under project soft costs are not included in the cost estimate and are assumed to be provided under a separate budget. Items listed as "not applicable" are assumed not to be included in any budget as the item is not required.

	Item	Project Capital Costs			Notes.
		Construction Cost.	Project Soft Cost.	Not Applicable.	
	b. FURNITURE				
	Loose Furniture		√		
	Office Furniture		√		
	c. FURNISHINGS				
	Window Treatments	√			
	Markerboards and tackboards	√			
	Lockers	√			
	Site Furniture		√		
	d. EQUIPMENT				
	Building Maintenance / Window Washing Equipment			√	
	Theatrical Equipment			√	
	Parking Equipment			√	
	e. SIGNAGE				
	Directional Signage	√			provided by the County
	Informational and Identification Signage	√			provided by the County
	Code Required Signage	√			
	f. PROCUREMENT				
	Pre-construction Services		√		*Procurement based on design-bid-build*
	Bonds	√			
	Insurance	√			*Professional liability insurance by Contractor*
	g. CONTINGENCIES				
	Design Contingency	√			
	Construction Contingency		√		
	Owner's Contingency		√		
	h. ESCALATION				
	Labor & Material Escalation	√			*To planned construction midpoint date*

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Feasibility Study Cost Plan — Overall Summary

		BUILDING			SITEWORK			TOTAL
		GFA (SF)	$/SF	Total $ x 1,000	Net Site Area (SF)	$/SF	Total $ x 1,000	$ x 1,000
Primary, Individually - Eligible		61,646	533.90	32,913	35,000	156.80	**5,488**	**38,401**
Primary Contributors		204,375	484.78	*99,077*	*142,000*	*83.33*	***11,833***	**110,910**
Secondary Contributors		133,639	478.24	*63,911*	*131,232*	*77.59*	***10,182***	**74,093**
TOTAL CONSTRUCTION COST		399,660	490.17	***195,901***	*308,232*	*89.23*	***27,503***	***223,404***
Escalation to Midpoint (Jul 2021)	11.7%							**26,058**
Owner Soft Costs								
Site and Property Acquisition Costs	N/A							**-**
Preparation of Historical Building Report (Primary Individually Eligible Bldg)								***225***
Interpretive Exhibits (Casa Consuelo)								***80***
Design and Engineering Consultant Services	8.0%							**19,957**
Project Management Consultant Services	3.0%							**8,092**
FF & E	5.80%							**16,114**
Taxes and Indirect Fees	1.0%							**2,940**
Building Permit and Other Agency Fees	1.5%							**4,453**
Owner Contingency/Construction Contingency	25.0%							**75,331**
Estimated Project Cost								***376,654***
Parking, Sitework and other costs provided by the County (soft costs included)								
1. Parking Structure								***39,120***
2. Site Development								
- Street & Sidewalk Improvements								***2,682***
- Site Improvements : earthwork and landscaping								***4,596***
- Directional Signage								***320***
- Site Utilities: wet & dry								***37,100***
3. Others								
- FF & E including A/V $16,000,000								***included above***
- UPS $1,725,000								***1,725***
Overall Estimated Project Cost								***462,197***

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Feasibility Study Cost Plan — Overall Summary by Building

		BUILDING			SITEWORK			TOTAL
		GFA (SF)	$/SF	Total $ x 1,000	Net Site Area (SF)	$/SF	Total $ x 1,000	**$ x 1,000**
Primary, Individually - Eligible								
Casa Consuelo (LACO 1238)		37,808	524.47	***19,829***	15,000	122.40	***1,836***	**21,665**
Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)		23,838	548.87	***13,084***	20,000	148.60	***2,972***	**16,056**
Water Tower (LACO 1301)		-	0.00	***0***	*incl*	0.00	***680***	**680**
Total Construction Cost - Primary, Individually - Eligible		*61,646*	*533.90*	***32,913***	*35,000*	*156.80*	***5,488***	***38,401***
								-
Escalation to Midpoint (Jul 2021)	11.7%							**4,479**
Owner Soft Costs								
Site and Property Acquisition Costs	N/A							**-**
Preparation of Historical Building Report								**225**
Interpretive Exhibits								**80**
Design and Engineering Consultant Services	8.0%							**3,430**
Project Management Consultant Services	3.0%							**1,398**
FF & E	5.80%							**2,785**
Taxes and Indirect Fees	1.0%							**508**
Building Permit and Other Agency Fees	1.5%							**770**
Owner Contingency/Construction Contingency	25.0%							**13,019**
Project Cost - Primary, Individually - Eligible								***65,095***

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Feasibility Study Cost Plan — Overall Summary by Building

		BUILDING			SITEWORK			TOTAL
		GFA (SF)	$/SF	Total $ x 1,000	Net Site Area (SF)	$/SF	Total $ x 1,000	$ x 1,000
								-
Primary Contributors								-
General Ward 30 (LACO 1184)		14,500	499.59	***7,244***	5,000	111.80	***559***	**7,803**
General Ward 40 (LACO 1185)		14,924	487.07	***7,269***	5,000	112.00	***560***	**7,829**
General Ward 50 (LACO 1186)		14,924	487.07	***7,269***	5,000	112.00	***560***	**7,829**
General Ward 60 (LACO 1187)		14,500	492.76	***7,145***	5,000	111.60	***558***	**7,703**
Patient Ward 201 (LACO 1189)		5,583	464.80	***2,595***	5,000	92.00	***460***	**3,055**
Patient Ward 202 (LACO 1190)		5,583	464.80	***2,595***	5,000	92.00	***460***	**3,055**
Patient Ward 203 (LACO 1191)		5,583	464.80	***2,595***	5,000	92.00	***460***	**3,055**
Patient Ward 204 (LACO 1192)		5,583	464.80	***2,595***	5,000	92.00	***460***	**3,055**
Women's Psychiatric Ward (LACO 1203)		22,193	456.68	***10,135***	20,000	74.70	***1,494***	**11,629**
Men's Psychiatric Ward (LACO 1205)		30,388	457.81	***13,912***	50,000	58.86	***2,943***	**16,855**
Work Preparation Center (LACO 1207)		3,946	218.70	***863***	3,000	76.33	***229***	**1,092**
Bathhouse and Ward (LACO 1260)		10,148	556.96	***5,652***	5,000	107.00	***535***	**6,187**
Auditorium (LACO 1261)		8,700	686.21	***5,970***	6,000	104.33	***626***	**6,596**
Dining, Kitchen, Staff Rm (LACO 1262)		33,093	489.05	***16,184***	10,000	112.40	***1,124***	**17,308**
Commissary & Receiving (LACO 1263)		4,089	474.93	***1,942***	*incl*	0.00	***39***	**1,981**
Workshop (LACO 1275)		10,638	480.54	***5,112***	8,000	95.75	***766***	**5,878**
Total Construction Cost - Primary Contributors		*204,375*	*484.78*	***99,077***	*142,000*	*83.33*	***11,833***	***110,910***
Escalation to Midpoint (Jul 2021)	11.7%							**12,937**
Owner Soft Costs								**-**
Site and Property Acquisition Costs	N/A							**-**
Design and Engineering Consultant Services	8.0%							**9,908**
Project Management Consultant Services	3.0%							**4,013**
FF & E	5.80%							**7,991**
Taxes and Indirect Fees	1.0%							**1,458**
Building Permit and Other Agency Fees	1.5%							**2,208**
Owner Contingency/Construction Contingency	25.0%							**37,356**
Project Cost - Primary Contributor								***186,781***

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Feasibility Study Cost Plan — Overall Summary by Building

		BUILDING			SITEWORK			TOTAL
		GFA (SF)	$/SF	Total $ x 1,000	Net Site Area (SF)	$/SF	Total $ x 1,000	$ x 1,000
Secondary Contributors								-
Staff Cottage (LACO 1121)		1,789	498.60	***892***	2,000	102.50	***205***	**1,097**
Staff Cottage (LACO 1123)		1,789	498.60	***892***	2,000	102.50	***205***	**1,097**
General Ward 70 (LACO 1188)		14,644	495.49	***7,256***	5,000	112.00	***560***	**7,816**
Patient Ward 205 (LACO 1193)		5,583	464.80	***2,595***	5,000	92.00	***460***	**3,055**
Patient Ward 206 (LACO 1194)		5,583	464.80	***2,595***	5,000	92.00	***460***	**3,055**
Patient Ward 207 (LACO 1195)		5,583	464.80	***2,595***	5,000	92.00	***460***	**3,055**
Patient Ward 208 (LACO 1196)		5,583	464.80	***2,595***	5,000	92.00	***460***	**3,055**
Patient Ward 209 (LACO 1197)		5,583	464.80	***2,595***	5,000	92.00	***460***	**3,055**
Women's Psychiatric Ward (LACO 1202)		22,927	450.30	***10,324***	20,000	74.85	***1,497***	**11,821**
Men's Psychiatric Ward (LACO 1204)		28,917	490.54	***14,185***	50,000	58.94	***2,947***	**17,132**
Chapel/Computer Center (LACO 1254)		2,414	458.57	***1,107***	5,000	93.40	***467***	**1,574**
Bonita Hall (LACO 1264)		5,508	459.69	***2,532***	3,000	99.00	***297***	**2,829**
Shelter (LACO 1265)		-	0.00	***-***	232	73.28	***17***	**17**
Lock Shop (LACO 1276)		750	706.67	***530***	1,000	94.00	***94***	**624**
Trunk Storage (LACO 1283)		7,736	473.63	***3,664***	5,000	97.20	***486***	**4,150**
Kitchen and Dining Building (LACO 1295)		18,908	499.37	***9,442***	10,000	95.90	***959***	**10,401**
Brooder House/Vivarium Annex (LACO 1335)		342	327.49	***112***	3,000	49.33	***148***	**260**
Total Construction Cost - Secondary Contributors		*133,639*	*478.24*	***63,911***	*131,232*	*77.59*	***10,182***	***74,093***
Escalation to Midpoint (Jul 2021)	11.7%							**8,642**
Owner Soft Costs								**-**
Site and Property Acquisition Costs	N/A							**-**
Design and Engineering Consultant Services	8.0%							**6,619**
Project Management Consultant Services	3.0%							**2,681**
FF & E	5.80%							**5,338**
Taxes and Indirect Fees	1.0%							**974**
Building Permit and Other Agency Fees	1.5%							**1,475**
Owner Contingency/Construction Contingency	25.0%							**24,956**
Project Cost - Secondary Contributor								***124,778***

D Summary of Mothballing Reports

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) for the purpose of stabilizing and protecting buildings on the South Campus of Rancho Los Amigos (the subject property). The property has been identified as a historical resource as it is a potential historic district. It is comprised of several buildings that are considered potential individually-eligible historical resources in their own right, as well as a number of contributing and non-contributing resources. However, the subject property has been vacant for an unspecified period of time it may remain so into the future. Therefore, this Mothballing Plan was devised as a means to provide direction to the owner of the subject property – the County of Los Angeles (the County) – in regard to protecting the integrity of the buildings on the subject property and undertaking measures that are appropriate for unoccupied buildings. This Mothballing Plan follows the guidance provided by the document entitled, "Preservation Brief 31: Mothballing Historic Buildings" (*Preservation Brief #31*), which was developed by the Technical Preservation Services division of the National Park Service, which is the federal agency charged with overseeing the nation's historic preservation programs and implementing policy under the 1966 Historic Preservation Act. The brief is authored by Sharon C. Park, AIA, a Senior Historical Architect with the Technical Preservation Services division. It is one in a series of technical briefs developed by the National Park Service that is intended to provide authoritative guidance on best preservation practices. In *Preservation Brief #31*, the purpose of mothballing is described as follows:

> When all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism. This process, known as mothballing, can be a necessary and effective means of protecting the building while planning the property's future, or raising money for a preservation, rehabilitation or restoration project. If a vacant property has been declared unsafe by building officials, stabilization and mothballing may be the only way to protect it from demolition.[1]

Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in *Preservation Brief #31*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor "will also depend on continued, although somewhat limited, monitoring and maintenance."[2] Finally, it is also important to note that mothballing will not provide the longer cycle performance that characterizes a restoration or a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

The mothballing process as described in *Preservation Brief #31* has four main components that are applicable to the subject property, as follows 1) documentation and recordation of buildings to be mothballed; 2) the preparation of a condition assessment for buildings to be mothballed; 3) the stabilization of buildings to be mothballed; and 4) the actual mothballing of buildings. Each of these components, or steps, is intended to be performed in sequential order in the effort to mothball an individual building or a grouping of buildings, and the last two components of the mothballing process also have multiple sub-components. Each of the steps entailed in the mothballing process, as described more fully in *Preservation Brief #31*, is briefly summarized here for reference, as follows:

1) Documentation and Recordation

   Documenting the historical significance and physical condition of the property will provide information necessary for setting priorities and allocating funds. By understanding the history of the historical resource, significant elements, even though deteriorated, may be identified for retention. This effort includes the tasks that follow:

   - Determining the overall historical significance of the property and dates of construction;
   - Determining the chronology of alterations or additions and their approximate dates; and,
   - Determining the types of building materials, construction techniques, and any unusual detailing or regional variations of craftsmanship.

2) Preparation of a Condition Assessment

   A condition assessment can provide the owner with an accurate overview of the current condition of the property. If the building is deteriorated or if there are significant interior architectural elements that will need special protection during the mothballing years, undertaking a condition assessment is highly recommended, but it need not be exhaustive. For historic buildings, the great advantage of a condition assessment is that architectural features, both on the exterior as well as the interior, can be rated on a scale of their importance to the integrity and significance of the building. Those features of the highest priority should receive preference when repairs or protection measures are outlined as part of the mothballing process.

3) Stabilization

   Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced; insects and other pests removed and discouraged from returning; and the building protected from moisture damage both by weatherizing the exterior envelope and by handling water run-off on the site. Therefore, the stabilization effort includes the tasks that follow:

   - Structurally stabilize the building
   - Controlling pests

- Securing the exterior envelope from moisture penetration

4) Mothballing

The actual mothballing effort involves controlling the long-term deterioration of the building while it is unoccupied as well as finding methods to protect it from sudden loss by fire or vandalism. This requires securing the building from unwanted entry, providing adequate ventilation to the interior, and shutting down or modifying existing utilities. Once the building is de-activated or secured, the long-term success will depend on the periodic maintenance and surveillance monitoring. Therefore, the mothballing effort includes the tasks that follow:

- Securing the building from vandals, break-ins, and natural disasters
- Providing adequate ventilation to the interior
- Securing mechanical systems and utilities
- Developing a maintenance and monitoring plan

The Mothballing Plan presented here, as prepared by SMS Architects, is broken up into individual reports that correspond with each of the buildings that the County is considering retaining on the subject property for an unspecified period of time through a mothballing process. However, the individual reports presented here only represent the last two components of a successful mothballing process as described in *Preservation Brief #31*. This is due to the fact that the first two components of a successful mothballing process have been carried out under different planning efforts conducted by the County, the results of which have informed this Mothballing Plan. The first component, which involves the documentation and recordation of the subject property with respect to the history of many buildings that comprise it, is provided in a recent study conducted by ESA entitled *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared for the County of Los Angeles in June 2018 (2018 EAS Report). This report, as well as several previous studies, were used to inform the Mothballing Plan. Moreover, the appendices to this Mothballing Plan include historic data that describes the location, narrative history, and significance of the property. The second component of the mothballing effort, which involves a Condition Assessment of the Building, was carried out by SMS Architects and Coffman Engineering on (February 2019). Over a two-day period of time, each of the buildings proposed for mothballing was entered and surveyed, and its condition documented with photographs and notes. The results of these condition assessments by both the architectural team and the structural team were then presented in a series of architectural and structural reports for each individual building that are included elsewhere in the larger Feasibility Study of which this Mothballing Plan is a part. These reports, which contain condition assessments for each building, provided the basis for the Mothballing Plan. Moreover, the appendices tot his Mothballing Plan also include construction drawings dated 2011 from an unbuilt project that provide useful background information about the buildings (2011 Project Documentation).[3] Therefore, the Mothballing Plan presented here directly addresses only the last two components of

[3] Sapphos Environmental, Inc. *Rancho Los Amigos Historic District* (Pasadena CA, 2011).

a successful mothballing effort as described as *Preservation Brief #31*, as the other two companion components are addressed elsewhere.

The Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothballing project. Execution of the Mothballing Plan may require additional scoping, documentation, engineering, and shop drawings. This Mothballing Plan, which is a planning document, is not a substitute for construction documents and specifications.
In the process of preparing this Mothballing Plan, no individual historic structure reports not more current detailed descriptions and statements of significance and condition were available for the buildings on the subject property. Given that the objective of the Mothballing Plan is to stabilize and protect the existing spaces and features that comprise each of the buildings on the subject property, without prejudice informing the decision-making process, future detailed study of the individual buildings on the subject property could provide additional information about the value and significance of specific features, materials, and finishes. Therefore, the future preparation of individual historic structures reports for the buildings on the subject property is highly recommended. However, that said, the information that was readily available through field observation and as supplemental information (as included in the appendices) provided ample information for appropriate treatment recommendations for mothballing.

The buildings can be expected to have deteriorated and may have changed in minor respects since the 2011 Project Documentation and the 2017 historic assessment.[4] The most notable damage to the buildings on the subject property is due to rain water because the roofing, roof decks, and sheathing have failed in many locations. The exceptions to the general intent to stabilize and protect existing materials features throughout the mothballing process are (a) roofing materials and sheathing, (b) a corrugated metal shed addition, and (c) an open shed on the north side of the west wing. Roofing materials and sheathing are so badly deteriorated that replacement-in-kind in order to provide a serviceable and durable roof may be required. The added sheds are not significant additions and could be removed as an option by the owner in the process of scoping and executing a mothballing project.

In conclusion, this Mothballing Plan will provide temporary protection and stabilization for the subject property and allow the owner for future planning to ensure that the historic property will be in stable condition for rehabilitation.

The primary authors of this report, Everett Martinez and Chris Haack meet the Secretary of the Interior's Professional Qualifications Standards (36 CFR 6 I) for architecture.

[4] Historic Resources Group *Mothballing Plan for Gensler & The County of Los Angeles: Rancho Los Amigos, South Campus Casa Consuelo (LACO No. 1238)*. (Pasadena CA, 2017).

E Summary of Mothballing Cost Plans

MOTHBALLING COST PLAN

Rancho Los Amigos South Campus

environmental science associates 233 wilshire boulevard, suite 150, santa monica, california 90401

January 17, 2020

Project No:E6130.110

Report by MGAC

Jose A. Ramirez | 213-417-7541 | jramirez@mgac.com

MGAC

Mothballing Cost Plan

Contents

	Page Nos.
Project Overview	1
Basis of Cost Plan	2
Project Budget Allocation	3
Overall Summary	5
Overall Summary by Building - Primary, Individually Eligible	6
Overall Summary - Primary Contributors	7
Overall Summary - Secondary Contributors	8
Cost Estimate Details	see report per Building

Description

This report analyzes the cost associated with the Mothballing of the existing Rancho Los Amigos South Campus located in the City of Downey, California. The project includes the existing buildings with eligibility status as follows:

1. Primary, Individually Eligible
2. Primary Contributors
3. Secondary Contributors

Scope

The mothballing of the existing buildings generally includes stabilizing and protecting the existing spaces and features including providing temporary roofing materials or roofings system as may be required.

Procurement

The mothballing cost plan assumes that the project will be procured as a design-bid-build contract, based on competitive bidding for the general contract and all subcontract packages.

Documents / Drawings

The cost plan is based on the following:

SMS Architects Report

Coffman Engineers Report

Site visit

Discussion with ESA, SMS Architects and Coffman Engineers

Schedule

The mothballing cost plan assumes a construction start date of January 2021 with a construction duration of 36 months

Assumptions / Clarifications

The mothballing cost plan includes construction cost at current pricing level. Allowance for escalation is included in the overall summary.

Owner soft cost allowance is included below the construction costs to cover design fees, project management fees, permit fees, change order contingencies, owner contingency and the likes.

The contractor will have full access to the site during normal working hours

The contractor will be required to pay the prevailing wages

There will not be small business set aside requirement

There are no phasing requirements

The pricing does not include maintenance or regular maintenance after the mothballing work is completed.

Pricing

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this document. Unit rates have been obtained from historical records and/or discussion with contractors. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated. The mark-ups cover the costs of field overhead, home office overhead and profit and range from 15% to 25% of the cost for a particular item of work.

Pricing reflects probable construction costs obtainable in the project locality on the date of this statement of probable costs. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors and general contractors, with a minimum of 3 bidders for all items of subcontracted work and 3-4 general contractor bids. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since MGAC has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market conditions at the time of bid, the statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents MGAC's best judgement as professional construction consultant familiar with the construction industry. However, MGAC cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

The information below identifies the assumptions included in this cost report relative to allocation of costs. Items listed under construction costs are included in the cost estimate and are anticipated to be part of the construction contract. Items listed under project soft costs are not included in the cost estimate and are assumed to be provided under a separate budget. Items listed as "not applicable" are assumed not to be included in any budget as the item is not required.

	Item	Project Capital Costs			Notes.
		Construction Cost.	Project Soft Cost.	Not Applicable.	
I.	PROPERTY ACQUISITION / DEVELOPMENT				
	Removal of existing buildings and structures			√	
	On-Site Utilities Relocation and/or Removal			√	
	Off-Site Utilities Improvements			√	
	Connection to Utilities (charges and fees)			√	
	Street/sidewalk improvements			√	
	Moving and Relocation Expenses			√	
II.	HAZARDOUS MATERIAL ABATEMENT				
	Building			√	*excluded*
	Site			√	*excluded*
III.	PROFESSIONAL SERVICES				
	Architecture and Engineering Design Fees		√		
	Project Management Fees		√		
	Geotechnical & Survey		√		
	Materials Testing & Inspection		√		
	Third Party Commissioning			√	
	LEED Consultant Fees			√	
	LEED Certification Fees			√	
IV.	SYSTEMS, FURNISHINGS & EQUIPMENT				
	a. BUILDING SYSTEMS				
	Uninterruptible Power Supplies (UPS)			√	
	Security Cabling & Equipment			√	
	Telecom / AV / Data Network; Routers, Switches			√	
	Communication Cabling			√	
	Audio-Visual Equipment and Cabling			√	
	Building Controls Systems			√	

Mothballing Cost Plan — Project Budget Allocation

The information below identifies the assumptions included in this cost report relative to allocation of costs. Items listed under construction costs are included in the cost estimate and are anticipated to be part of the construction contract. Items listed under project soft costs are not included in the cost estimate and are assumed to be provided under a separate budget. Items listed as "not applicable" are assumed not to be included in any budget as the item is not required.

	Item	Project Capital Costs			Notes.
		Construction Cost.	Project Soft Cost.	Not Applicable.	
	b. FURNITURE				
	Loose Furniture			√	
	Office Furniture			√	
	c. FURNISHINGS				
	Window Treatments			√	
	Markerboards and tackboards			√	
	Lockers			√	
	Site Furniture			√	
	d. EQUIPMENT				
	Building Maintenance / Window Washing Equipment			√	
	Theatrical Equipment			√	
	Parking Equipment			√	
	e. SIGNAGE				
	Directional Signage			√	
	Informational and Identification Signage			√	
	Code Required Signage			√	
	f. PROCUREMENT				
	Pre-construction Services		√		*Procurement based on design-bid-build*
	Bonds	√			
	Insurance	√			*Professional liability insurance by Contractor*
	g. CONTINGENCIES				
	Design Contingency	√			
	Construction Contingency		√		
	Owner's Contingency		√		
	h. ESCALATION				
	Labor & Material Escalation	√			*To planned construction midpoint date*

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Mothballing Cost Plan — Overall Summary

		GFA (SF)	$/SF	**Total $ x 1,000**
Primary, Individually - Eligible		61,646	40.93	2,523
Primary Contributors		204,375	28.87	5,900
Secondary Contributors		133,639	32.78	4,381
TOTAL CONSTRUCTION COST		399,660	32.04	***12,804***
Escalation to Midpoint (Jul 2021)	11.7%			**1,493**
Owner Soft Costs				
Site and Property Acquisition Costs				***n/a***
Design and Engineering Consultant Services	4.0%			**572**
Project Management Consultant Services	2.0%			**297**
FF & E	0.0%			***n/a***
Taxes and Indirect Fees	1.0%			**152**
Building Permit and Other Agency Fees	1.5%			**230**
Owner Contingency/Construction Contingency	10.0%			**1,555**
Estimated Mothballing Project Cost				**17,103**

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Mothballing Cost Plan — Overall Summary - Primary, Individually Eligible

		GFA (SF)	$/SF	**Total $ x 1,000**
Primary, Individually - Eligible				
Casa Consuelo (LACO 1238)		37,808	29.23	***1,105***
Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)		23,838	45.98	***1,096***
Water Tower (LACO 1301)		-		***322***
Total Construction Cost - Primary, Individually - Eligible		*61,646*	*40.93*	***2,523***
Escalation to Midpoint (Jul 2021)	11.7%			**294**
Owner Soft Costs				
Site and Property Acquisition Costs				***n/a***
Design and Engineering Consultant Services	4.0%			**113**
Project Management Consultant Services	2.0%			**59**
FF & E	0.0%			***n/a***
Taxes and Indirect Fees	1.0%			**30**
Building Permit and Other Agency Fees	1.5%			**45**
Owner Contingency/Construction Contingency	10.0%			**306**
Estimated Cost - Primary Contributor (Mothballing)				***3,370***

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Mothballing Cost Plan — Overall Summary - Primary Contributors

		GFA (SF)	$/SF	**Total $ x 1,000**
Primary Contributors				
General Ward 30 (LACO 1184)		14,500	25.03	***363***
General Ward 40 (LACO 1185)		14,924	23.45	***350***
General Ward 50 (LACO 1186)		14,924	23.45	***350***
General Ward 60 (LACO 1187)		14,500	23.93	***347***
Patient Ward 201 (LACO 1189)		5,583	37.61	***210***
Patient Ward 202 (LACO 1190)		5,583	37.61	***210***
Patient Ward 203 (LACO 1191)		5,583	37.61	***210***
Patient Ward 204 (LACO 1192)		5,583	37.61	***210***
Women's Psychiatric Ward (LACO 1203)		22,193	31.95	***709***
Men's Psychiatric Ward (LACO 1205)		30,388	31.89	***969***
Work Preparation Center (LACO 1207)		3,946	43.34	***171***
Bathhouse and Ward (LACO 1260)		10,148	25.03	***254***
Auditorium (LACO 1261)		8,700	30.92	***269***
Dining, Kitchen, Staff Rm (LACO 1262)		33,093	24.60	***814***
Commissary & Receiving (LACO 1263)		4,089	27.39	***112***
Workshop (LACO 1275)		10,638	33.09	***352***
Total Construction Cost - Primary Contributors		*204,375*	*28.87*	***5,900***
Escalation to Midpoint (Jul 2021)	11.7%			**688**
Owner Soft Costs				
Site and Property Acquisition Costs				***n/a***
Design and Engineering Consultant Services	4.0%			**264**
Project Management Consultant Services	2.0%			**137**
FF & E	0.0%			***n/a***
Taxes and Indirect Fees	1.0%			**70**
Building Permit and Other Agency Fees	1.5%			**106**
Owner Contingency/Construction Contingency	10.0%			**717**
Estimated Cost - Primary Contributor (Mothballing)				***7,882***

Mothballing Cost Plan — Overall Summary by Secondary Contributors

		GFA (SF)	$/SF	**Total $ x 1,000**
Secondary Contributors				
Staff Cottage (LACO 1121)		1,789	41.92	***75***
Staff Cottage (LACO 1123)		1,789	41.92	***75***
General Ward 70 (LACO 1188)		14,644	23.63	***346***
Patient Ward 205 (LACO 1193)		5,583	37.61	***210***
Patient Ward 206 (LACO 1194)		5,583	37.61	***210***
Patient Ward 207 (LACO 1195)		5,583	37.61	***210***
Patient Ward 208 (LACO 1196)		5,583	37.61	***210***
Patient Ward 209 (LACO 1197)		5,583	37.61	***210***
Women's Psychiatric Ward (LACO 1202)		22,927	31.06	***712***
Men's Psychiatric Ward (LACO 1204)		28,917	34.55	***999***
Chapel/Computer Center (LACO 1254)		2,414	44.32	***107***
Bonita Hall (LACO 1264)		5,508	34.86	***192***
Shelter (LACO 1265)		-	0.00	***5***
Lock Shop (LACO 1276)		750	53.33	***40***
Trunk Storage (LACO 1283)		7,736	30.89	***239***
Kitchen and Dining Building (LACO 1295)		18,908	26.92	***509***
Brooder House/Vivarium Annex (LACO 1335)		342	93.57	***32***
Total Construction Cost - Secondary Contributors		*133,639*	*32.78*	***4,381***
Escalation to Midpoint (Jul 2021)	11.7%			**511**
Owner Soft Costs				
Site and Property Acquisition Costs				***n/a***
Design and Engineering Consultant Services	4.0%			**196**
Project Management Consultant Services	2.0%			**102**
FF & E	0.0%			***n/a***
Taxes and Indirect Fees	1.0%			**52**
Building Permit and Other Agency Fees	1.5%			**79**
Owner Contingency/Construction Contingency	10.0%			**532**
Estimated Cost - Secondary Contributor (Mothballing)				***5,853***

Feasibility Study Reports for LACO No. 1238 (Casa Consuelo)

Individually Eligible Contributor

ESA

A LACO No. 1238 (Casa Consuelo) – Architectural Assessment Report

Casa Consuelo (LACO 1238)

37,808 s.f.
Primary and Individually- Eligible to Historic district
Built 1930

Building Description

Casa Consuelo (LACO No. 1238) is located directly north of Consuelo Street at the intersection of Consuelo Street and Dahlia Avenue. Designed in the Spanish Colonial Revival style, the two-story building has an irregular H-shaped plan with projecting wings and features. It is horizontally massed beneath a complex hipped and gabled roof covered in red clay tiles. Casa Consuelo was constructed of board-form concrete painted white and sits on a concrete foundation. A stringcourse wraps the exterior walls beneath the second story. Courtyards set behind arcades are located on the south (primary), north and east elevations. Square, flat-roofed towers abut the arcade on either side on the south. A decoratively scalloped, wooden frieze board wraps the walls beneath shallow eaves, except at the courtyards where carved brackets support overhanging eaves. Scalloped parapets top each arcade, and impost moldings trim the piers. The east and west bays of the south arcade are blind and pierced by vents composed of twelve small square openings. Attic vents in the gable ends are small, rectangular openings filled with a zigzag design of clay tiles. Wrought iron balconies in the towers, end, middle bays, and courtyards are variously designed, with corbelled supports or wrought iron brackets; some shaded by hoods that extend from the roof on wrought iron brackets.

Fenestration consists of wood-framed, flat-headed single and double casement windows recessed into the window openings with slightly projecting concrete sills. The primary south entrance and secondary east entrance are set within flattened arch recesses and contain paneled and glazed double doors and sidelights adorned with spindle grilles and topped by transoms. Additional entrances are located on both the north and west elevations and contain non-original double metal doors. At least one original wrought iron pendant light illuminates one entry. The property is in deteriorated condition and its windows and doors are covered with plywood. The building retains sufficient integrity to convey its period of significance.[1]

Statement of Significance

The significance of LACO No. 1238 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Casa Consuelo (LACO No. 1238),* prepared for the County of Los Angeles June 2, 2008.

This property was determined eligible for listing in the National Register of Historic Places under Criterion A as a contributor to the Rancho Los Amigos Historic District on September 30, 1996. It is therefore also listed in the California Register of Historical Resources under Criterion 1. The current study confirmed the significance of Casa Consuelo (LACO No. 1238) as a contributor to the Historic District under Criterion A/1, association with events that have made a significant contribution to the broad patterns of local or regional history. The property is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. In addition, the building illustrates several of the distinctive characteristics of the Spanish Colonial Revival style, including its red clay tile roof, decorative use of wood and wrought iron, and incorporation of arcades, courtyards, and balconies into its design. Resembling a women's dormitory more than a hospital building, the Casa Consuelo also appears to be eligible to the National Register of Historic Places and California Register of Historical Resources under Criterion C/3. The building was erected in 1930 as the second women's ward for the County Poor Farm. Casa Consuelo provided a private and separate area for the women patients of the Poor Farm in a planned setting more conducive to their needs and comfort. The building served in this capacity until it was later converted to office and storage space. It is currently abandoned.

Although the building has suffered minor alterations, its exterior appearance still reflects its period of construction. An example of the Spanish Colonial Revival style, the building retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained its Spanish Colonial Revival style character-defining features: horizontal massing; whitewashed board form concrete exterior walls; arcades; courtyards; red-clay tile roof; decorative wooden frieze board and roof brackets; second-floor balconies with wrought iron railings; and architectural details, such as stringcourses and impost moldings. Its setting has been altered by the deterioration of the surrounding landscape.[2]

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Casa Consuelo (LACO No. 1238),* prepared for the County of Los Angeles June 2, 2008.

View of inner North Courtyard

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior

Character Defining Features	
• **Roofing –** Building has red clay mission barrel tile. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters – are in need of repair or replacement. There are flat built up roofs at the arcades.	• **19,100 s.f. Tile** • **2,500 s.f. built up roof**
• **Exterior walls** – Poured in place concrete walls are currently painted, and in fair condition with selected areas of water intrusion and spalling.	• **23,500 s.f.**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily of wrought iron railing at balconies, and selected wrought iron decorative trim at vents.	

• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **157 wood windows** • **30 exterior doors**

Interior Spaces

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **37,000 s.f.**
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – No mechanical ventilation was observed.	

Proposed New upgrades

Exterior

Character Defining Features	
• **Roof –** Replace existing plywood roof diagram per structural recommendations. Remove existing flashing and substructure. Replace with roof tile, assume 25% damage tile and replace in-kind. Provide new single ply roof membrane, flashing and substructure at arcades.	• **19,100 s.f of clay roof tile** • **Assume 25% new** • **2,500 s.f. new single ply roof at arcades.**
• **Exterior walls** – Remove paint on interior and exterior, epoxy all cracks and voids and spalling. It is assumed that 10% of overall surface area will need patching, repair and sealing of damaged wall areas after structural repair of the concrete walls and finish.	• **23,500 s.f.** • **2,300 patching and spalling repairs (10%)**
• **Doors and door openings –** Provide new glazing and seal windows where wood frames remain. Replace damaged doors in kind.	• **30 exterior doors Assume 15 restored and 15 new "in kind" replacement.**
• **Windows and window openings** – Strip and remove rust, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind. Assume 20% window replacement at those damaged beyond repair.	• **157 wood windows** • **30 exterior doors**
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with irrigation with pedestrian amenities in the three courtyards. Perimeter exterior landscaping to be landscaped and irrigated.	• **5,500 s.f. courtyards. (3)15,000 s.f. perimeter landscaping (estimated)**

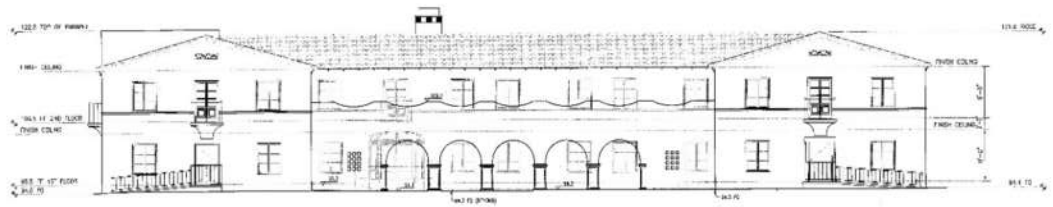
Interior spaces

It is assumed that this 38,800 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

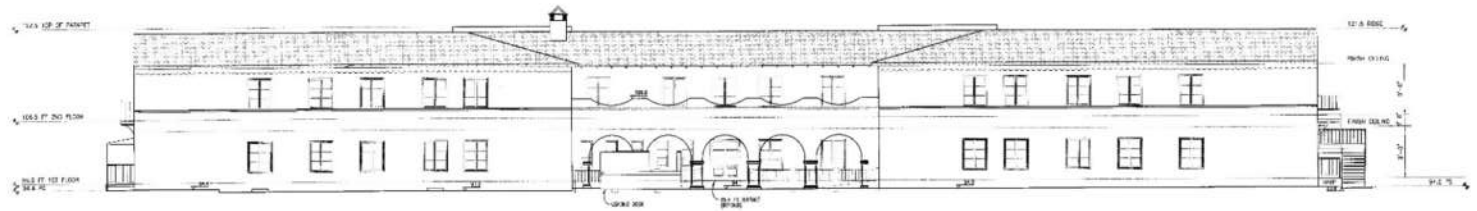
• **Flooring –** Remove and repair second floor structure and subfloor damaged concrete floor throughout.	• **37,000 s.f.**
• **Walls –** Remove paint from exterior walls and provide new plaster over proposed shotcrete and/or FRP walls where occurs. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. • **Interior walls** – Remaining 25% of office interior walls to be repaired and painted. All Hollow Clay tile walls will be incapsulated with 4" 16 ga. Metal studs each side and gyp bd.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **37,000 s.f., assume 25% new lath and plaster assembly**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 50-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines and capacity for food service.	
• **Electrical** – Provide new 2000 Amp system.	

• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. New ramps at three (3) locations not to exceed 7.5%.	

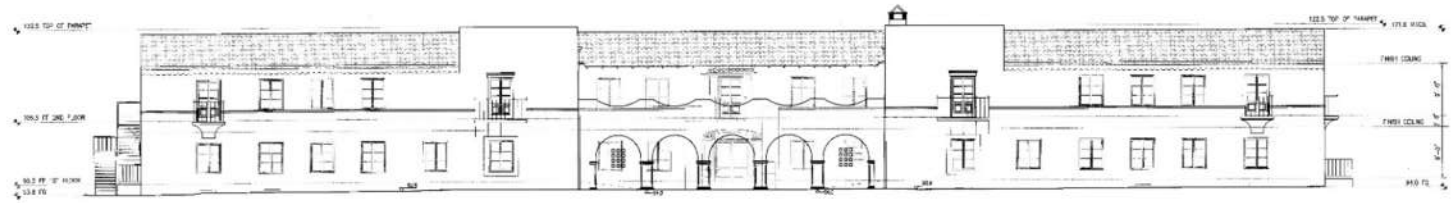
WEST ELEVATION



EAST ELEVATION



NORTH ELEVATION



SOUTH ELEVATION

DIAMOND WEST
engineering a better tomorrow

DATE REVISION BY

PREPARED FOR:
SAPPHOS
ENVIONMENTAL, INC
133 MARTIN ALLEY
PASADENA, CA 91105

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
CASA CONSUELO (LACO NO. 1236)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242

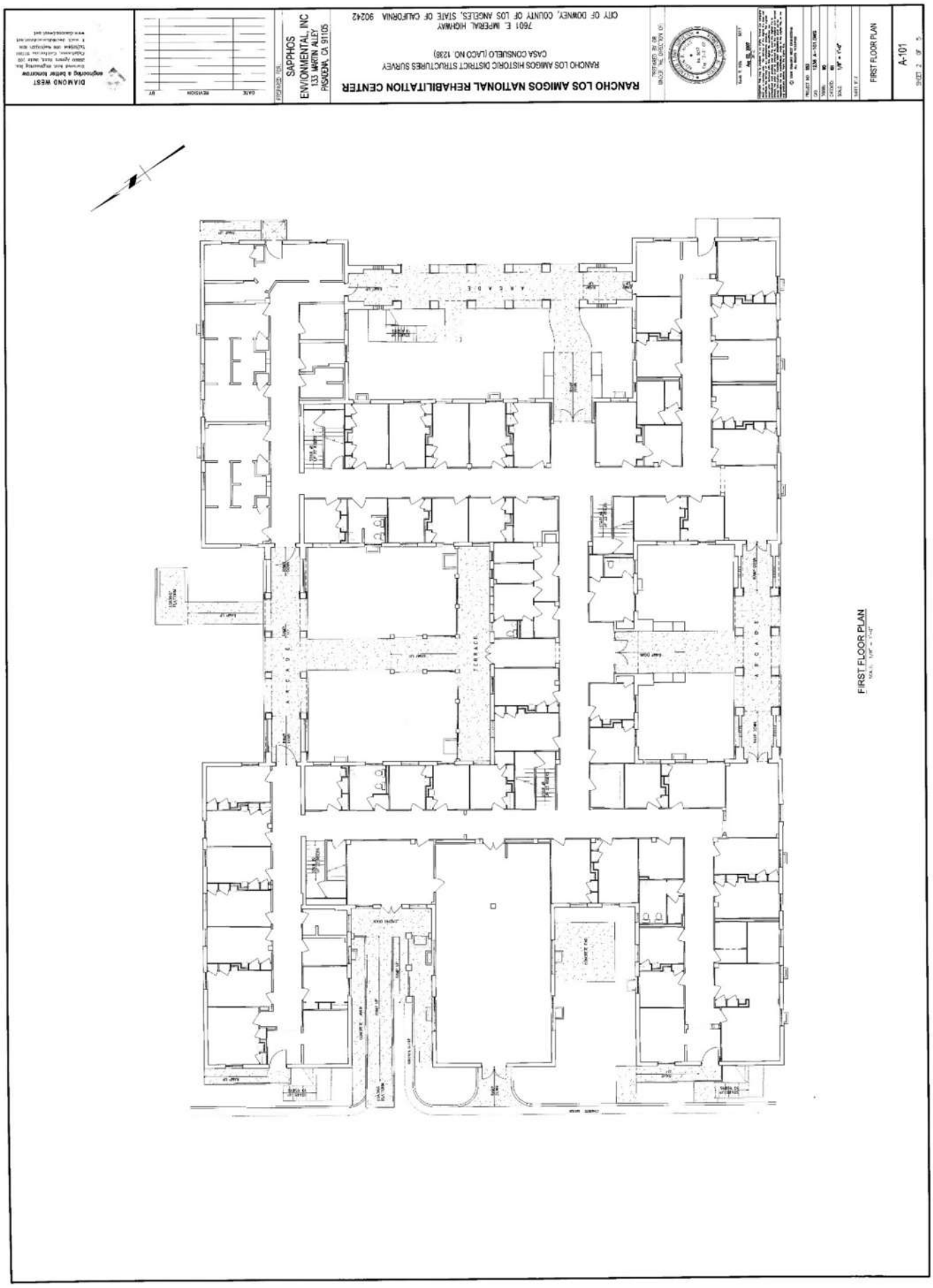
PREPARED BY OR
UNDER THE DIRECTION OF:

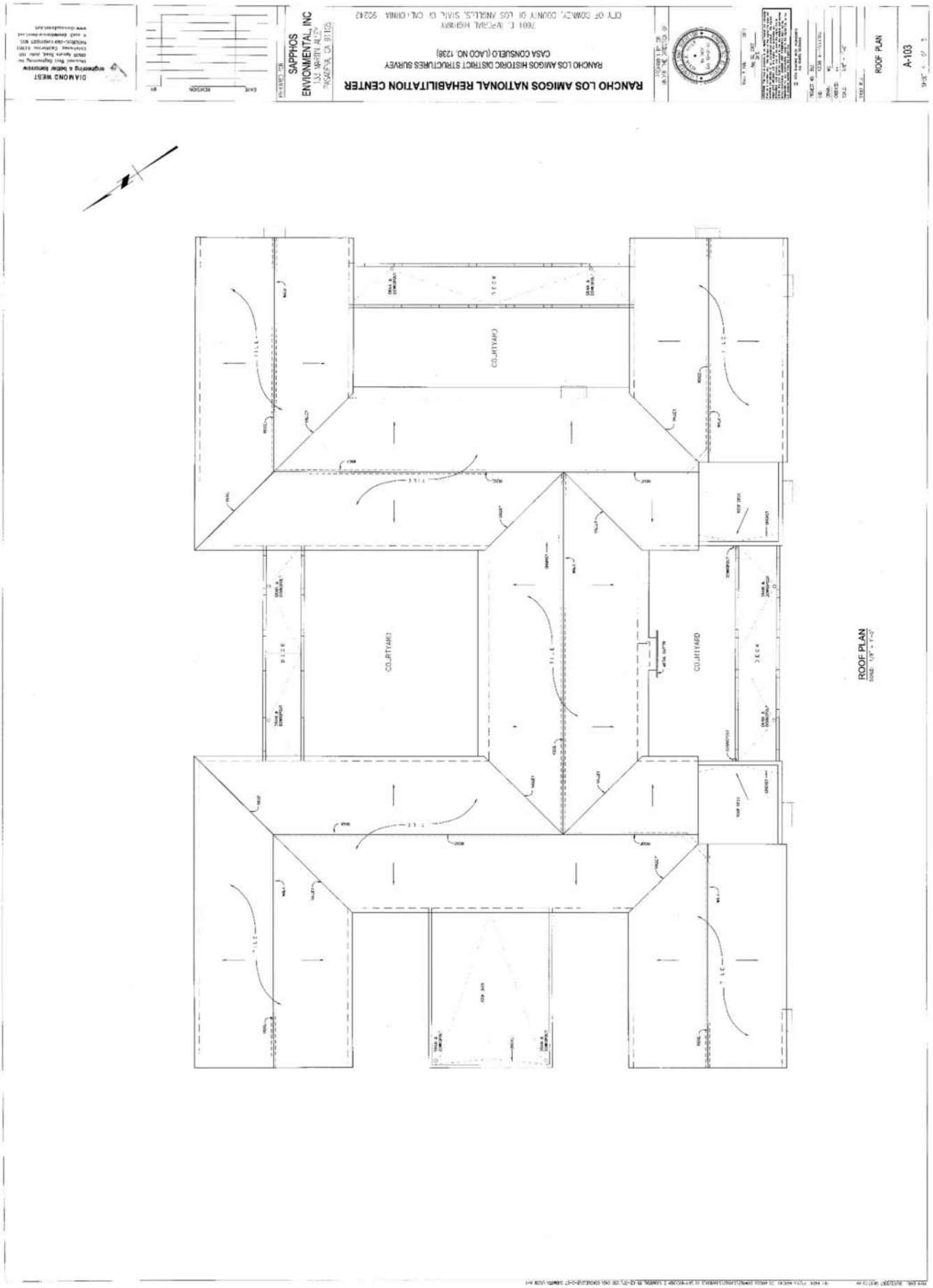
Aug 02, 2007

PROJECT NO: 353
CAD: 1236 A-201 ELEVS.DWG
DRAWN: MD
CHECKED: SS
SCALE: 1/8" = 1'-0"

EXTERIOR ELEVATIONS

A-201
SHEET 5 OF 5


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
CASA CONSUELO (LACO NO. 1238)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
133 MARTIN ALLEY
PASADENA, CA 91105
DIAMOND WEST
FIRST FLOOR PLAN
A-101
ARCADE
TERRACE
FIRST FLOOR PLAN


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
CASA CONSUELO (LAOD NO. 1238)
SAPPHOS ENVIRONMENTAL, INC
COURTYARD
COURTYARD
COURTYARD
DECK
DECK
ROOF PLAN
ROOF PLAN
A-103

North Courtyard

South elevation

1. Remove plywood – paint & repair windows/doors with laminated glazing and hardware. Replace 25% with new in-kind wood windows.
2. Clean, repair and refinish existing railing assembly.
3. Remove, repair and reinstall clay roof tile assembly. Assume 25% damaged tile and replace in kind.
4. Repair all cracks and spalling at exterior concrete wall.
5. New perimeter landscaping and irrigation.
6. Repair, patch, and paint. Provide new plaster finish at 10% of exterior walls.
7. 75% of interior walls to be removed. Clean, repair, and paint remaining interior walls.
8. Repair and paint plaster ceiling.

Balcony Door Damage

South Elevation

1. Remove plywood – paint & repair windows/doors with laminated glazing and hardware. Replace 25% with new in-kind wood windows.
2. Clean, repair and refinish existing railing assembly.
3. Remove, repair and reinstall clay roof tile assembly. Assume 25% damaged tile and replace in kind.
4. Repair all cracks and spalling at exterior concrete wall.
5. New perimeter landscaping and irrigation.
6. Repair, patch, and paint. Provide new plaster finish at 10% of exterior walls.
7. 75% of interior walls to be removed. Clean, repair, and paint remaining interior walls.
8. Repair and paint plaster ceiling.

South Entrance Courtyard

Interior

1. Remove plywood – paint & repair windows/doors with laminated glazing and hardware. Replace 25% with new in-kind wood windows.
2. Clean, repair and refinish existing railing assembly.
3. Remove, repair and reinstall clay roof tile assembly. Assume 25% damaged tile and replace in kind.
4. Repair all cracks and spalling at exterior concrete wall.
5. New perimeter landscaping and irrigation.
6. Repair, patch, and paint. Provide new plaster finish at 10% of exterior walls.
7. 50% of interior walls to be removed. Clean, repair, and paint remaining interior walls.
8. Repair and paint plaster ceiling.

B LACO No. 1238 (Casa Consuelo) – Structural Assessment Report

Structural Assessment: Casa Consuelo
(LACO NO. 1238)

Summary of Assessment

The Casa Consuelo Building was constructed in 1930 as a women's ward. It is a two-story Spanish style building, shaped like an "H" in plan, oriented north-south, with wings at each corner extending east or west. On the east, north and south elevations of the building, the corner wings are connected by a one-story arcade walkway. The building system consists of concrete exterior walls supporting the raised concrete slabs and wood roof, with unreinforced hollow clay tile partition walls.

The building is in poor condition. Signs of damage and deterioration were seen throughout the building at the interior and exterior. The expected seismic performance of this building in its current condition is poor. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of the Casa Consuelo Building. A detailed summary of these measures is included in the final section of this report. However, retrofitting nonductile concrete structures over 100 years old to meet a Life Safety Performance Level requires extensive inspection, materials testing, and strengthening. Certain elements may need to be demolished and replaced completely. The City of Los Angeles requires mandatory retrofit for nonductile concrete buildings constructed as late as the 1970s, due to these buildings' proven poor seismic performance. Casa Consuelo, a nonductile concrete building from the early 1900s, is expected to have an even more severe need for retrofitting.

Description of the Building

The overall building dimension is 108 feet by 145 feet, with a roof height of approximately 22 feet and a 9 typical story height. The floor plan encompasses a total area of approximately 37,808 square feet. On the west elevation, a one-story extension was built and used as a kitchen and dining area. Concrete columns on pad footings provide vertical support for the building at the interior while 12" thick bearing walls provide support at the exterior. These exterior walls are reinforced concrete and are continuous from the roof to the foundation. The first floor is raised from the ground with a crawl space beneath. Both the first and second floors are made of concrete slab with pan joists. The interior bearing walls are constructed of hollow clay tile. The arcade walkways are made of concrete slab and columns with integrated wall arches on each side. The building has a gable clay tile roof over wood framing which includes wood trusses. There are two concrete slab flat roof sections on the south side at each end of the walkway, and a third concrete slab flat roof section at the west entrance.

Condition Assessment

This building is in poor condition. The concrete exterior walls appear to have maintained their integrity. However, significant spalling can be found in many areas as shown in Figure 1, Figure 2 and Figure 3. This spalling is likely due to rebar corrosion and does not affect the overall structural performance of the building. In addition to spalling, much of the concrete contains shrinkage cracks. This is expected in all concrete, but especially in areas where there is very little reinforcement. Shrinkage cracks are not expected to affect the strength of the concrete. One major crack, which may not be due to shrinkage, was found in the ceiling at the dining area, shown in Figure 4. The roof cover here is damaged. This exposes the roof slab to a significant amount of water which increases the rate of deterioration and corrosion. While large cracks such as this were not visible elsewhere, large areas of ponding were observed on the second floor and likely exist at the roof level as well. There is a high probability that similar cracks occur in several places due to the ponding. Even if cracks are not visible, such severe ponding would have led to deterioration and corrosion. The concrete slab and joists at both the roof and second floor level will likely need significant strengthening and/or repairs, if not a full replacement.

In many areas, the existing wire mesh plaster ceiling is dropping, as shown in Figure 5. This appears to be due to corrosion and age. It is expected that the entire ceiling system will need to be replaced. The interior partition walls are made of hollow clay tile as shown in Figure 6. These walls are extremely brittle and generally not suitable as shear or bearing walls. Additionally, hollow clay tile walls are known to be a high-risk potential falling hazard; the walls are likely to collapse, break into many pieces, and obstruct egress. It is highly recommended that all hollow clay tile walls be removed and replaced. If there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to encapsulate the wall and mitigate the falling hazard.

The concrete that makes up the arcade walkway (Figure 7 and Figure 8) exhibits more deterioration than other portions of this building. This is likely due to significant exposure to the elements. Spalling, minor cracking, and shrinkage cracking were found throughout the arcade walkway. Testing would be required to determine if the cracking has significantly affected the strength of the structure, but repairs are recommended to prolong the life of the structure. Figure 9 and Figure 10 show typical cracking and spalling at the arcade walkway. The absence of a seismic joint between the building and the arcade (Figure 11) could lead to severe cracking and damage in the event of an earthquake. A flexible expansion joint could be added at each end of the arcade walkway to mitigate damage and improve the structure's performance. However, this would interfere with the exterior appearance and affect the character-defining features of the building. For this reason, the expansion joint is not recommended at this time, but in the case of a seismic event, significant damage is likely to occur at the building-arcade connections.

Evaluation of Structural Performance

This building has a good geometrical shape, no vertical discontinuities, and no uneven masses. This simple symmetric design will help avoid a concentration of stresses in the event of an earthquake. The ASCE 41 Tier 1 checklist indicates there may be a possible deficiency in the shear walls. The walls may be overstressed in the event of a moderate earthquake. ASCE-41 also indicates the shear walls are under-reinforced by current code standards. This means that the ability of the building to resist earthquake damage is insufficient, and improvements should be made. These improvements include additional out-of-plane wall strength and anchorage. Additionally, as is typical with buildings at this site, the walls do not have sufficient connections to the roof and foundation. There does not appear to be a strong diaphragm installed at the roof. Roof diaphragms are required to transfer earthquake forces to the shear walls. The trusses also have connections which may be insufficient to transfer earthquake forces to the shear walls. Prescriptive measures are recommended to provide a complete lateral load path before this building is expected to function at a Life Safety Performance Level.

Summary of Proposed Upgrades

The expected seismic performance of the Casa Consuelo Building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the structure. Strengthening will likely be needed on every wall over the majority of the wall's surface area. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Shotcrete existing concrete walls. Shotcrete would need to be applied to all walls, most likely covering the walls' full surface area. In order not to affect the appearance of the exterior character-defining elevations,

shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the existing concrete wall to properly connect the wall to the shotcrete.

- Install new concrete shear walls to reduce stresses on existing walls. Concrete footings would need to be installed beneath the new shear walls.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient for providing protection of character-defining features and increasing performance and strength compared to the other methods of strengthening.
- Although infill of existing wall openings (windows and doors) would improve performance, it would not be sufficient on its own. Furthermore, it is anticipated that such a solution would be incompatible with the retention of the character-defining features identified for this building.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in the event of damage or collapse.
- Where shotcrete or FRP is not being added, install vertical and/or horizontal steel strongbacks for out-of-plane bending. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. Anchors would need to be drilled into the concrete to properly connect the walls to the strongbacks. The interior elevations of the walls would be visually obstructed by a network of steel tube framing.

Diaphragm

- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Provide new truss-to-wall connections or secondary gravity supports (for example, new steel post columns) at each truss.
- Add plywood overlay to the existing wood roof. The existing clay tile roofing, which is listed as a character-defining feature, would need to be removed to properly install the plywood. Since the clay tiles are bedded in concrete mortar and likely could not be individually salvaged when removed, it is assumed they would need to be replaced-in-kind.
- Add cross tie straps, collectors, and drags to provide a complete lateral load path.

General Condition

- Remove and replace the existing deteriorated concrete. Patch and grout the reinforced concrete that appears to be spalling and cracking at the floor and walls. Apply moisture sealant as needed to the underside of the floor to further protect reinforcement that has inadequate concrete cover.
- Significant portions of the wood roof may need strengthening or full replacement due to prolonged moisture, water damage, and dry rot.
- Repair and strengthen significant portions of the roof slab. It is possible that a full replacement of the roof slab will be required.
- Repair and strengthen significant portions of the second floor slab or replace the second floor slab entirely.
- New ductwork and electrical conduit will require new openings in the walls and/or roof; strengthening of the structure at these openings will likely be required.
- The construction of the arcade, in terms of the degree of reinforcement and strength of the structure, is unknown. A full analysis would be required to understand the arcade strength and determine whether or not it must be upgraded to resist seismic forces.

Figure 1: Concrete spalling at sill

Figure 2: Concrete spalling at lintel

Figure 3: Concrete spalling at balcony

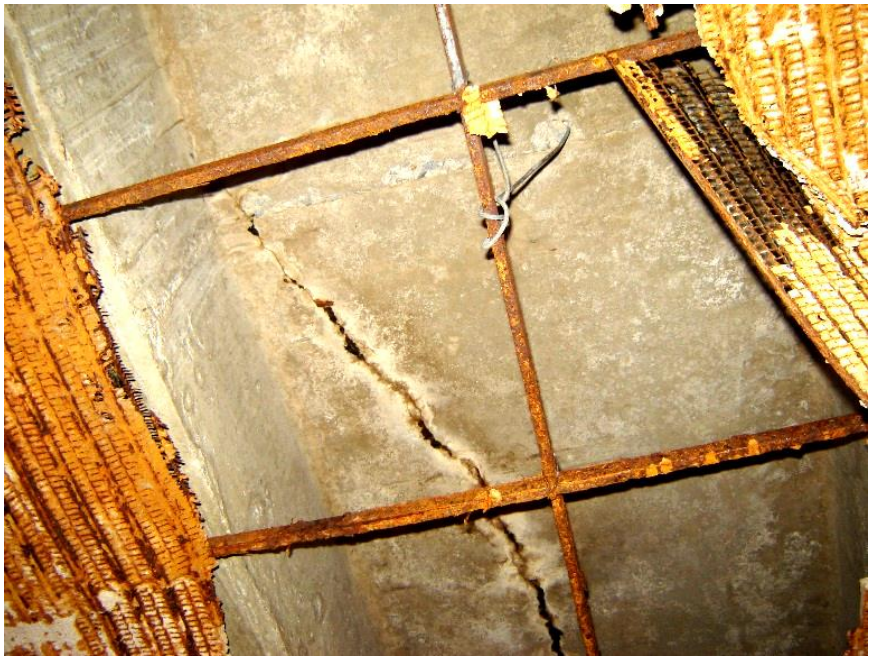


Figure 4: Crack in 1st floor ceiling, dining area

Figure 5: Falling plaster ceiling

Figure 6: Hollow clay tile wall

Figure 7: Arcade walkway

Figure 8: Arcade walkway

Figure 9: Concrete spalling in arcade wall

Figure 10: Concrete deterioration at arcade walkway

Figure 11: Connection between the building and arcade

C LACO No. 1238 (Casa Consuelo) – Preservation/Adaptive Reuse Cost Plan

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Feasibility Study Cost Plan

Casa Consuelo (LACO 1238)

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Feasibility Study Cost Plan — Casa Consuelo (LACO 1238)

			SF	$/SF	TOTAL $ x 1,000
B1	Casa Consuelo (LACO 1238)		37,808	524.47	19,829
SUB-TOTAL BUILDING CONSTRUCTION			37,808	524.47	19,829
S1	Sitework		15,000	101.07	1,516
	Premium for enhanced sustainable site features				320
SUB-TOTAL SITEWORK					1,836
TOTAL BUILDING AND SITEWORK					**21,665**
Escalation to Midpoint (Jul 2021)		11.7%			2,527
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Preparation of Historical Building Report (allow $75K)				75
	Interpretive Exhibits (Casa Consuelo)				80
	Design and Engineering Consultant Services	8.0%			1,935
	Project Management Consultant Services	3.0%			788
	FF & E	5.8%			1,570
	Taxes and Indirect Fees	1.0%			286
	Building Permit and Other Agency Fees	1.5%			434
	Owner Contingency/Construction Contingency	25.0%			7,340
Recommended Budget					***36,700***

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Feasibility Study Cost Plan — Casa Consuelo (LACO 1238) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level1	18,904		
Level 2	18,904		
Subtotal of Enclosed Areas	37,808		
TOTAL GROSS FLOOR AREA	**37,808**		**0**

Control Quantities				Ratio to GFA
Number of stories		2	EA	0.000
Gross Area		37,808	SF	1.000
Enclosed Area		37,808	SF	1.000
Covered Area		2,000	SF	0.053
Footprint Area		18,904	SF	0.500
Gross Wall Area		23,500	SF	0.622
Finished Wall Area		23,500	SF	0.622
Windows or Glazing	20%	4,700	SF	0.124
Roof Area - Flat		4,100	SF	0.108
Roof Area - Sloping		19,100	SF	0.505
Roof Area - Total		23,200	SF	0.614
Interior Partitions		2,300	LF	0.060
Finished Area		37,808	SF	1.000
Elevators (Ratio x 10,000)		1	EA	0.264
Plumbing Fixtures (Ratio x 1,000)		50	EA	1.322
HVAC		43,750	CFM	1.157
Electrical Load (Ratio x 1,000)		750	kVA	19.837
Lighting Systems		37,808	SF	1.000
Sprinkler Systems		37,808	SF	1.000

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Feasibility Study Cost Plan — Casa Consuelo (LACO 1238) Summary

Ref.	Description		%	$/SF	TOTAL $x 1,000
			Gross Area:	37,808 SF	
A10	Foundations		2%	8.26	312
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	8.26	312
B10	Superstructure		15%	76.74	2,901
B20	Exterior Enclosure		5%	27.55	1,042
B30	Roofing		4%	22.21	840
B	Shell		24%	126.50	4,783
C10	Interior Construction		6%	28.85	1,091
C20	Stairways		0%	0.69	26
C30	Interior Finishes		11%	56.47	2,135
C	Interiors		16%	86.01	3,252
D10	Conveying Systems		1%	5.29	200
D20	Plumbing Systems		3%	17.97	679
D30	Heating, Ventilation & Air Cond.		9%	46.73	1,767
D40	Fire Protection		1%	7.00	265
D50	Elect'l Lighting, Power & Comm.		16%	84.23	3,184
D	Services		31%	161.21	6,095
E10	Equipment		0%	0.00	0
E20	Furnishings		3%	17.15	648
E	Equipment & Furnishings		3%	17.15	648
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		2%	11.58	438
F	Special Construction & Demolition		2%	11.58	438
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	410.71	15,528
Z10	Design Contingency	10.00%	8%	41.07	1,553
Z11	General Requirements	4.00%	3%	18.07	683
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	469.85	17,764
Z21	General Conditions	6.00%	5%	28.19	1,066
Z22	Bonds & Insurance	1.50%	1%	7.47	282
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	18.96	717
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	524.47	19,829
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	524.47	19,829

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Feasibility Study Cost Plan — Casa Consuelo (LACO 1238)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				142,400
Wall footing for new shearwall	200	LF	350.00	70,000
Wall footing for elevator corewall	64	LF	350.00	22,400
Elevator pits	1	LS	50,000.00	50,000
A1030 Slab On Grade				170,000
Repair existing slab on grade, allow 3000 SF	3,000	SF	30.00	90,000
New slab on grade, demo existing	4,000	SF	20.00	80,000
				312,400
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				2,490,924
Steel post columns, L2 - Roof allow 30 plf SHS	45	T	10,000.00	450,000
Repair and strengthen portion of 2F slab, allow 50% of 2F slab	9,700	SF	25.00	242,500
Shotcrete to existing shearwall				
Exterior walls	23,500	SF	40.00	940,000
Interior walls, allow 20%	4,000	SF	40.00	160,000
Elevator corewalls	1,300	SF	75.00	97,500
New concrete shearwalls, allow 200 LF	4,000	SF	75.00	300,000
Equipment pads, curbs and wall curbs	2,500	SF	35.00	87,500
Allowance for miscellaneous framing, bracing, blockings and metals	37,808	SF	3.00	113,424
Seismic joints	1	LS	100,000.00	100,000

	Quantity	Unit	Rate	Total
B1020 Roof Construction				410,400
Steel anchors between walls and diaphragm, max 4' spacing	275	EA	500.00	137,500
Repair and strengthen portion of roof slab and 2F exterior walkway, allow 50% of roof slab	2,100	SF	25.00	52,500
Repair and strengthen portion of timber roof framing, allow 50% of Roof structure	9,600	SF	15.00	144,000
New roof sheathing	19,100	SF	4.00	76,400
				2,901,324
B20 Exterior Enclosure				
B2010 Exterior Walls				339,750
Patch, plaster and seal damaged wall areas, allow 10% of wall area	2,300	SF	25.00	57,500
Repair all cracks at spalling at exterior concrete wall, allow 10% of wall area	2,300	SF	25.00	57,500
Repaint exterior walls	23,500	SF	3.50	82,250
Loose fill insulation				*n/a*
Gypsum board lining and finish to interior face of exterior walls including painting	23,500	SF	5.00	117,500
Clean, repair, refinish existing railing	100	LF	250.00	25,000
B2020 Exterior Windows				492,000
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing, allow 75%	3,600	SF	100.00	360,000
New windows similar kind (custom windows, high performance glazing), 25%	1,100	SF	120.00	132,000
B2030 Exterior Doors				210,000
Aluminum framed glazed doors including framing and hardwares				
Repair, restore existing doors, provide new hardwares	15	EA	4,000.00	60,000
Provide new doors in similar kind including hardwares	15	EA	10,000.00	150,000
				1,041,750

	Quantity	Unit	Rate	Total
B30 Roofing				
B3010 Roof Coverings				829,766
Reinstall clay roof tiles (allow 75%)	14,300	SF	30.00	429,000
New clay roof tiles (allow 25%)	4,800	SF	36.00	172,800
Rigid insulation	2,300	SF	4.50	10,350
Batt insulation	19,100	SF	2.00	38,200
Single ply roofing system, roof decks and exterior walkway (including premium for cool roof)	4,100	SF	14.00	57,400
Roofing upstand and sheet metal	23,200	SF	2.00	46,400
Caulking and sealants	37,808	SF	2.00	75,616
B3020 Roof Openings				10,000
Roof access hatch	1	LS	10,000.00	10,000
				839,766
C10 Interior Construction				
C1010 Partitions				424,000
Glazed partitions, allowance	1,000	SF	80.00	80,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	8,600	SF	40.00	344,000
C1020 Interior Doors				451,500
New wood doors including frames and hardwares (1/300 SF)	129	EA	3,500.00	451,500
C1030 Fittings				215,232
Prefabricated toilet compartment and accessories	32	EA	2,000.00	64,000
Code required signages, fire extinguisher cabinets, etc	37,808	SF	4.00	151,232
				1,090,732
C20 Stairways				
C2010 Stair Construction				20,000
New stair finishes	4	EA	5,000.00	20,000

	Quantity	Unit	Rate	Total
C2020 Stair Finishes				6,000
Repair, repaint stair railings	4	EA	1,500.00	6,000
				26,000
C30 Interior Finishes				
C3010 Wall Finishes				371,900
Repair damaged plaster, allow 50%	19,400	SF	11.00	213,400
Repaint existing interior walls	39,000	SF	1.50	58,500
Enhance wall finishes	1	LS	100,000.00	100,000
C3020 Floor Finishes				414,824
Floor levelling screed	37,808	SF	3.00	113,424
Carpet	36,400	SF	6.50	236,600
Ceramic tiles	2,400	SF	20.00	48,000
Ceramic tile base	400	LF	9.00	3,600
Wood base	2,200	LF	6.00	13,200
C3030 Ceiling Finishes				1,348,280
Gypsum plaster ceiling on wood lathe	37,808	SF	35.00	1,323,280
Allowance for lightcoves and bulkheads	1	LS	25,000.00	25,000
				2,135,004
D10 Conveying Systems				
D1010 Elevators & Lifts				200,000
Passenger elevator, 2 stops	2	EA	100,000.00	200,000
				200,000

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				100,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	50	EA	2,000.00	100,000
D2020 Domestic Water Distribution				175,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	4	EA	2,500.00	10,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	50	EA	3,000.00	150,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	15,000.00	15,000
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				263,424
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	37,808	SF	2.00	75,616
Condensate drainage pipework, fittings, < = 1-1/2", insulated	37,808	SF	1.00	37,808
Waste, vent, fittings, < = 6"	50	EA	3,000.00	150,000
D2040 Rain Water Drainage				113,424
Surface water drainage				
Roof & overflow drains, < = 6"	37,808	SF	3.00	113,424
D2090 Other Plumbing Systems				27,500
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	27,500.00	27,500
				679,348

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
D3030 Cooling Generating Systems				771,875
Chilled water generation equipment				
Chilling				
Outdoor air-sourced heat pump, (300 SF per Ton)	125	Ton	1,750.00	218,750
Piping, fittings, valves and insulation				
3 - pipe VRF pipework distribution, fittings	6,250	LF	55.00	343,750
Valves and specialties - including branch selector boxes	1	LS	125,000.00	125,000
Insulation	6,250	LF	13.50	84,375
D3040 Distribution Systems				572,866
Air distribution and return				
Galvanized sheet metal ductwork (0.75# /SF)	30,000	LB	12.00	360,000
Dampers	1	LS	36,000.00	36,000
Insulation	22,500	SF	4.50	101,250
Diffusers, registers and grilles	37,808	SF	2.00	75,616
D3050 Terminal & Package Units				187,500
VRF cassettes, Mitsubishi or the like, < = 2 ton	63	EA	3,000.00	187,500
D3060 Controls and Instrumentation				170,136
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	37,808	SF	4.50	170,136
D3070 Systems Testing & Balancing				56,712
Test and balance air systems	37,808	SF	1.50	56,712
D3090 Other HVAC Systems & Equipment				7,500
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	7,500.00	7,500
				1,766,589

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				264,656
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	37,808	SF	7.00	264,656
				264,656
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				821,391
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders (allow 20 W/SF)	750	kVA	275.00	206,250
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	188	kVA	975.00	182,813
Photovoltaic panels	60	KW	5,000.00	300,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	37,808	SF	3.50	132,328
D5020 Lighting & Branch Wiring				1,512,320
User convenience power				
Panel board breakers, 120 V circuits	37,808	SF	2.00	75,616
Receptacles, including conduit and cable	37,808	SF	5.50	207,944
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	37,808	SF	27.50	1,039,720
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	37,808	SF	5.00	189,040

Feasibility Study Cost Plan — Casa Consuelo (LACO 1238)

	Quantity	Unit	Rate	Total
D5030 Communications & Security				529,312
Telephone and communications				
Telephone/data - including conduit & cable	37,808	SF	6.50	245,752
WAP	37,808	SF	1.00	37,808
DAS - Emergency response & cellular	37,808	SF	4.00	151,232
Cable tray/wire-way/j-hooks	37,808	SF	1.00	37,808
Audiovisual rough-in	37,808	SF	1.50	56,712
D5090 Other Electrical Systems				321,368
Fire alarm systems	37,808	SF	4.50	170,136
Security - perimeter access control & CCTV surveillance	37,808	SF	4.00	151,232
				3,184,391

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				648,312
Cabinets, countertops shelving and millwork	37,808	SF	14.00	529,312
Window treatment	4,700	SF	20.00	94,000
Entrance mat	1	LS	25,000.00	25,000
				648,312

F10 Special Construction

				0

MGAC

Feasibility Study Cost Plan — Casa Consuelo (LACO 1238)

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				248,820
Selective demolition				
Demo/remove portion of slab on grade	7,000	SF	5.00	35,000
Demo/remove portion of suspended slab		SF		
Exterior windows, 25%	1,100	SF	5.00	5,500
Exterior doors	15	EA	150.00	2,250
Remove clay roof tiles including roof sheathing	19,100	SF	1.50	28,650
Demo/remove 75% of existing partitions	25,900	SF	3.00	77,700
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	37,808	SF	2.50	94,520
Allow for clearing/removal of storage debris	80	MH	65.00	5,200
F2020 Hazardous Components Abatement				189,040
Hazmat abatement - allowance	37,808	SF	5.00	189,040
				437,860

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Casa Consuelo (LACO 1238)				
Gross Site Area	33,900	SF		
Building footprint	18,904	SF		
Net Site Area	15,000	SF		
Site Preparation				*71,250*
General site clearing	15,000	SF	2.50	37,500
Strip and remove landscaping	15,000	SF	0.75	11,250
Miscellaneous site demolition	15,000	SF	1.00	15,000
Rough grading	15,000	SF	0.25	3,750
Fine grading	15,000	SF	0.25	3,750
G1040 Hazardous Waste Remediation				
Site Improvement				*688,250*
Concrete paving, 4" thick	10,500	SF	20.00	210,000
Premium for permeable paving	5,250	SF	13.00	68,250
Premium for disabled access	1	LS	10,000.00	10,000
Site structures, fencing and gates,	1	LS	250,000.00	250,000
Landscaping and irrigation	1	LS	150,000.00	150,000
Site Utilities - Allow 200' per building				*427,500*
Water mains, domestic and fire				
Domestic water pipework, fittings, < = 6"	200	LF	87.50	17,500
Fire water pipework, fittings, < = 8"	200	LF	92.00	18,400
Valves and specialties (including metering)	1	LS	23,500.00	23,500
Connections to existing	2	EA	3,750.00	7,500
Sanitary Sewer				
Underground pipework, fittings, < = 10"				
New connection pipework, < = 10" PVC/VCP	200	LF	87.50	17,500
Connections/Manholes - to existing	1	LS	17,500.00	17,500
Storm drainage				
Storm drainage catchment, treatment and run-off, including Contech tank, piping to the tank and tie-in to irrigation for the storm and re-use system	1	LS	100,000.00	100,000

MGAC

Feasibility Study Cost Plan — Casa Consuelo (LACO 1238)

Item Description	Quantity	Unit	Rate	Total
Fuel Distribution				
Natural gas/metering/seismic protection	1	LS	25,000.00	25,000
Mains power - run from overhead to underground				
Pad-mounted transformer, 480/277 V, primary feeder				
Feeder conduit only, (20 4"	200	LF	200.00	40,000
Manholes/pull-boxes	1	LS	17,550.00	17,550
Site lighting	1	LS	100,000.00	100,000
Telecommunications/signals				
Underground conduit and cable, (4) 4" (allowance)	200	LF	127.50	25,500
Manholes/pull-boxes	1	LS	17,550.00	17,550
Alternate Cost Before Markups				**1,187,000**
Z10 Design Contingency	10.00%			118,700
Z11 General Requirements	4.00%			52,228
Z21 General Conditions	6.00%			81,476
Z22 Bonds & Insurance	1.50%			21,591
Z23 Contractor's Overhead, Profit & Fee	3.75%			54,787
Z30 See Overall Summary for Escalation	0.00%			
				1,515,782

D LACO No. 1238 (Casa Consuelo) – Mothballing Report

MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

RANCHO LOS AMIGOS, SOUTH CAMPUS
Casa Consuelo (LACO No. 1238)
August 16, 2017

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CONTENTS **PAGE**

1. **Introduction** 3
2. **Mothballing Checklist** 5
3. **As-found conditions** 15

APPENDICES 29

- **A. DPR 523 forms: Building data**
- **B. Measured Drawings of Buildings**
- **C. Archival Drawings of Buildings: Original Design and Construction**
- **D: Written Historical and Descriptive Data from HABS (Historic American Building Survey)**
- **E. Sharon Park, FAIA, Preservation Briefs No. 31, Mothballing Historic Buildings**
- **F. Thomas E. Solon, AIA Emeritus, Security Panels for the Foster-Armstrong House**

MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

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Casa Consuelo (LACO No. 1238)
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The subject building has been identified as historic resource. However, it may remain vacant for an unspecified period of time. This plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings.

This is a planning document for the purpose of stabilizing and protecting a building on the South Campus of Rancho Los Amigos. We do not know how long the building will remain vacant. The plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. The plan is not the equivalent of construction documents and specifications.

The appendices to this plan include "DPR 523" forms that briefly describe the condition and significance of the buildings as of 2008. The appendices to this plan also include as-found location plan, floor plans, and exterior building elevations dated 2007. The buildings are generally in similar condition today in that the spaces and features delineated are extant. In the past 10 years deterioration from lack of maintenance and vandalism. The most notable damage is due to water intrusion and break-ins at doors and windows. The Historic American Buildings Survey "Written Historical and Descriptive Data" prepared between 2006 and 2011 made a part of the appendix.

No historic structure reports nor more current detailed descriptions and statements of significance and condition are available for the buildings. In general, the intent is to stabilize and protect the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. Future assessment could provide additional information about the value and significance of specific features, materials, and finishes. However, the information available by field observation and in the appendices provide ample information for appropriate treatment recommendations for mothballing.

This plan follows the direction provided by the document titled, "Preservation Briefs 31, Mothballing Historic Buildings, authored by Sharon C. Park, AIA (subsequently elevated to FAIA), and published by the National Park Service.

> "When all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism. This process, known as mothballing, can be a necessary and effective means of protecting the building while planning the property's future, or raising money for a preservation, rehabilitation or restoration project. If a vacant

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property has been declared unsafe by building officials, stabilization and mothballing may be the only way to protect it from demolition."

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Item #	Item	Recommendations
St-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	*The primary structure appears to be reinforced concrete with a wood framed gable roof, in good condition. There is no visible damage or deterioration of structural components. It is possible that no structural work is needed for the purpose of mothballing.* *Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations if need be for any further technical assessment for further action. It is noted that the objective is stabilization, not ultimate rehabilitation either to meet current building standards or alternative standards under the 2013 California Historical Building Code (Title 24, Part 8). However, deference is given to the engineer.*
M-1	Is the roof watertight?	The existing roofing is red clay mission barrel tile. The tiles are not fully visible from the ground. The condition of the sheathing and membrane under the tiles (if any) is not known. The tiles appear to be in fair to good condition; it is not possible to observe membrane and sheathing are extremely deteriorated. There is a smaller area of flat concrete roof deck at the dining pavilion. There are two alternative possible cause of the water damage, which is observed to come from above, not from the ground. One is from broken or vandalized water pipes. The second is a failing roof membrane and flashings. *Replacement of the existing roof membrane with a new temporary roof membrane is the best alternative. It is possible to conduct a probing investigation of the existing roof membrane and extensive flood testing to determine if and where the existing roof may have failed. However, if the building will be vacant over a period of years, the existing membrane is already old and may fail* *Remove existing clay tile without breakage by a high level of care. Do not remove the cement mortar from individual tiles. Stack the tiles on pallets, separating each layer with a foam sheet. "Shrink wrap" the pallets.*

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Item #	Item	Recommendations
		Store the pallets in a safe, secure space. For example, the existing dining room is a good potential storage on-site, though storage off site or in another facility locally are alternatives. *Repair wood board sheathing if required.as needed, and add a temporary roof membrane, as specified by the Architect, and/or licensed roofing contractor. Qualitatively, a bituminous base sheet, modified bituminous mineral-surfaced cap sheet, with prefinished metal eaves and gable drip flashing is an acceptable approach for this purpose. Flame-down application shall not be used. Cold application is preferred. Hot adhesive application is acceptable if the adhesive heater is no closer than 50 feet from the building, and a heat and blast barrier is placed between the heater and building to deflect any accidental combustion and explosion of fuel.* *All necessary measures shall be taken to prevent impact and mechanical damage to the building structure and finishes during roof repairs. Scaffolding, and/or working from lifts over the roof are possible options as part of the means and methods to be developed by the builder if necessary to prevent damage.*
M-2	Do the gutters retain their proper pitch and are they clean?	No gutters, scuppers, or rain leaders were observed. The eaves overhangs and gable rake overhangs are substantial enough to conflict most roof drainage away from building footings and exterior walls. The finish grades near the exterior of the building are almost flat, and well below the exterior door thresholds. No evidence of interior flooding from exterior ground water was observed. No storm water inlets were observed. The local climate is semi-arid, with a short and highly variable rainy season. Occasional heavy rainfall is possible. *Exterior weed abatement and trimming of trees and shrubs will help water falling from the roof eaves to sheet flow away from the building and facilitate percolation into soil.*
M-3	Are downspout joints intact?	Refer to M-2 above.

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Item #	Item	Recommendations 7
M-4	Are drains unobstructed?	Refer to M-2 above.
M-5	Are windows and doors and their frames in good condition?	The original windows and doors may have been all wood, with reference to the archival original design and construction drawings. This information is not altogether conclusive, since in some instances wood is detailed on drawings whereas original construction changed the specs to metal. Extant frames and sash are painted ferrous metal. Conditions are good, fair, and poor. Some windows are shut, with intact operating hardware; some glazing is broken or missing, and some sash is left open and may be damaged. Most window openings have exterior plywood board-ups, though some are loose or falling away. Many doors appear to have been previously replaced. Most doors are wood, including wood double French doors (swinging, divided light) that are consistent with the archival original construction drawings. Many doors are badly damaged due to break-ins or attempted break-ins from the exterior. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon. Omit the tromp l'oeil muntins shown in Solon's document. All wood and plywood components shall be primed and painted on all surfaces (i.e., "back-painted," front, rear, ends, edges) after being cut to size, and before assembly, such that there are no unpainted wood surfaces, including no hidden unpainted wood or plywood surfaces. This detail also provides for passive ventilation through screened louvers.*
M-6	Are masonry walls in good condition to seal out moisture?	Exterior walls appear to be painted reinforced concrete. No cracks, spalls, or incipient spalls were observed.

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Item #	Item	Recommendations
		Repaint exterior walls. Apply a normal exterior cyclical maintenance approach: prep through removal of loose and flaky paint, wash, and apply a normal but adequately permeable exterior masonry paint (e.g., 12 perms or greater). High pressure washing is acceptable, as the walls are concrete and in good condition, provided that door and window openings are sealed and protected during the washing. Highly impermeable exterior coatings (e.g., most elastomeric paints) are not recommended because they do not allow moisture to evaporate.
M-7	Is wood siding in good condition?	There is no wood siding. *Not applicable.*
M-8	Is site properly graded for water run-off?	*Refer to M-2 above.*
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There is much vegetation around the building. Grass and weeds are not maintained. Trees and shrubs are overgrown and in contact with the building. The west wing on the north elevation is completely covered with vines. Vegetation contributes to moisture damage, supports pests, and increases risk of fire. *Cut and remove cuttings from grass and weeds down to grade, and maintain at a close cut, or remove to bare soil.* *Remove all vines from the building and adjacent ground, including trunks and roots.* *Trim all tree and shrub specimens to conform to good practice, as recommended by a horticulturalist and arborist. Trees and shrubs that can be identified as volunteers, and/or not of the period of significance should be removed entirely, including roots. Ideally, all parts of trees and shrubs should have a clear minimum space of at least three feet (3'-0") horizontally between the plant and the building eaves and walls.*

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Item #	Item	Recommendations 9
P-1	Have nests/pests been removed from the building's interior and eaves?	Feral cats were observed in this area. Reportedly the cats are fed, but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings that are not mothballed, it is unrealistic to expect that the population will be reduced to zero. There is skunk odor in the north part of the building at the first floor. We did not observe nests and any other small mammals, birds, bees, or insects at the interior or eaves. *Continue best practices for management of the feral cat population.* *Engage qualified pest and animal management specialists to inspect and treat the existing conditions as appropriate.* *As noted in this Plan, seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building. Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens. *No work is recommended.*
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	We are not informed as to whether or not the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. *As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. Perform treatment for insect and fungal infestations as recommended.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	*Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement, and to abate.*
H-1	Have the following been removed from the interior: trash,	There are furnishings and miscellaneous items. We did not observe any furnishing or items that appear to be of cultural or historic value.

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	hazardous materials such as inflammable liquids, poisons, and paints and canned goods that could freeze and burst?	*The County of Los Angeles may at their discretion consider having the furnishings and miscellaneous items observed by an archival, history, cultural, or museum staff person at RLA, or one of the County's cultural institutions.*
H-2	Is the interior broom-clean?	No. *After removing all items from the interior, remove building material debris (e.g., plaster, lath, paint chips), and sweep the floors broom-clean.*
H-3	Have furnishings been removed to a safe location?	*Refer to H-1 above.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	*Do not leave any furnishings in the building.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended.*
H-6	Is there a building file?	We are not informed as to whether there is a building file. *It is recommended that building management and maintenance services maintain a paper and digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms and as-found measured drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building*

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Item #	Item	Recommendations
		Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	*It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction if need be, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entry, fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at interior spaces. Install more than one detector per space where fire/life safety practice and equipment performance suggests. Alarms shall be audible locally, and shall report a signal to a central station that automatically or manually makes an immediate emergency call to the fire department.* *Install eight manual fire extinguishers attached to the exterior of the building, two at each elevation. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. *Refer to the opening protection recommendations at M-5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should observe all sides and exterior openings of the building closely at least twice daily.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call, and is on the call list when fire, smoke, and security alarms are*

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Item #	Item	Recommendations
		activated, and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.
S-6	Are the grounds being kept from becoming overgrown?	No. *Refer to the recommendations for landscape maintenance above. Combustible refuse is piled near the west elevation of the building, in and nearby a dumpster. Remove all waste from all yards at all spaces between the building and adjacent buildings.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Status of utilities is not known. • *Shut off gas service to the building. Remove gas meter. Cut and cap any local building gas supply pipes at least 20 feet from any wall of the building.* • *Power and communications service must be retained. However, the distribution of power should be limited to one or more circuits as required for alarms and communications, and one grounded quadruplex receptacle for maintenance. Utility extension cords may be used when needed. Distribution to all other panels and devices should be disconnected and cut. Licensed electrician shall inspect, repair, and install new wiring and wiring devices as needed.* • *There should be no water supply inside of the building. Valving off is not adequate; water supply main shall be cut and capped. At least one cold water hose bib shall be maintained or installed at the exterior of the building for building and yard maintenance. The exception to this recommendation is that fire sprinkler heads were observed in the building; water supply may be maintained if a fully operational fire alarm and sprinkler system is maintained in the building.*

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Item #	Item	Recommendations
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. • *Leave all water supply faucets open.* • *Maintain water in all waste traps (sinks, toilets) to prevent sewer gas backflow unless sewer lines are cut and capped outside of the building line.*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	Yes. *As found, the building is not air tight. The mothballing work will not achieve a tight building.*
V-2	Have interior doors been left open for ventilation purposes?	Yes. *No work is recommended.*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
MAINTENANCE CHECKLIST		
MC-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism

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Item #	Item	Recommendations 14
		• check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion and feral cats • check and update building file; submit action plan for response to observations
MC-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
MC-3	Every 12 months	• inspections for equipment/utilities • check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

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Image #	Description	Overview of general and typical as-found conditions August 14, 2017
1	Exterior; south elevation, view north. Paint failure, overgrown plants, inadequate window board-ups.	
2	Exterior; east elevation, view west. Paint failure, overgrown plants, inadequate window board-ups.	

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Image #	Description	
3	Exterior; north elevation, view south, east wing. Paint failure, overgrown plants, inadequate window board-ups.	
4	Exterior; north elevation, view south, center court arcade. Paint failure, overgrown plants, inadequate window board-ups..	

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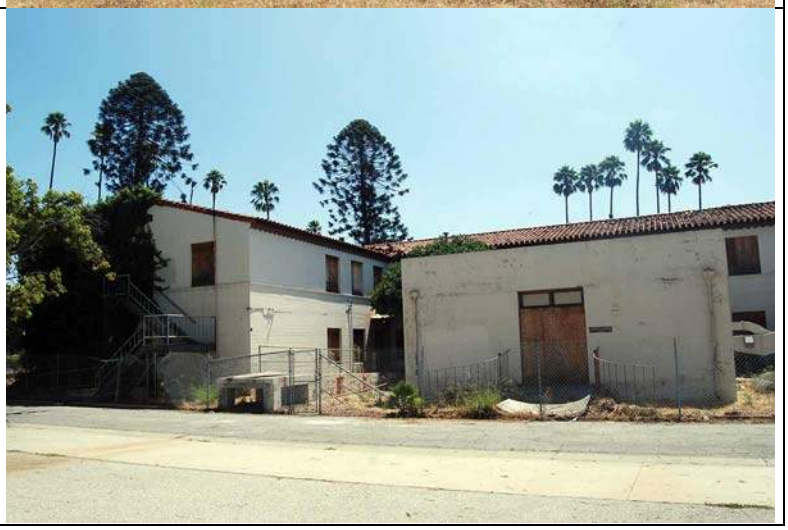
Image #	Description	
5	Exterior; north elevation, west wing, view north south. Paint failure, overgrown plants, inadequate window board-ups.	
6	Exterior; west elevation, north wing and center court with dining pavilion, view east northeast. Paint failure, overgrown plants, inadequate window board-ups.	

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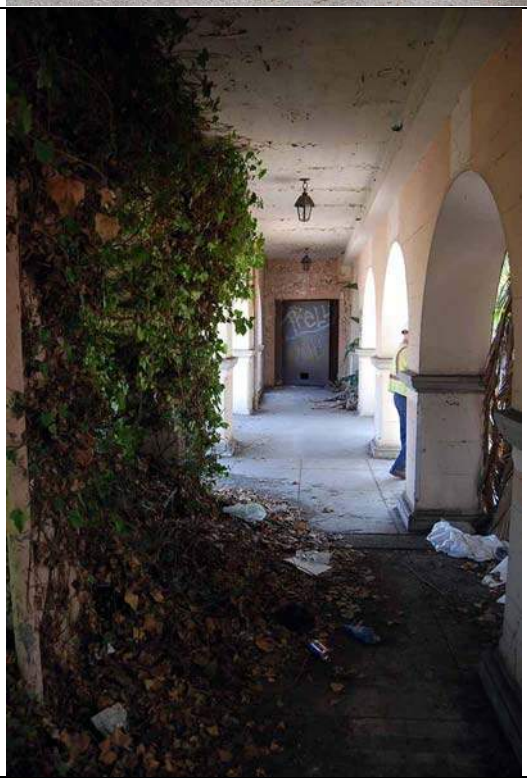
Image #	Description	
7	Exterior; west elevation, north wing and center court with dining pavilion, view east northeast. Paint failure, dry weeds, inadequate window board-ups.	
8	Exterior; detail at north courtyard arcade, view east. Paint failure, overgrown plants.	

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Image #	Description	
9	Exterior; detail at north courtyard, view east. Paint failure, overgrown plants.	
10	Exterior; waste management dumpster in yard west of west elevation. Combustible items adjacent to building.	

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Image #	Description	
11	Interior; typical historic primary entrance door opening, side panels, and transom. Doors not historic, previously replaced; however, opening, frames, paneling, and transom not protected.	
12	Interior, typical exterior door opening. Frame, doors, and screen doors are historic. Protection not in place.	

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Image #	Description	
13	Interior, typical exterior door opening. Frame, and doors, and screen doors are historic. Glass is broken. Highly combustible hay bed inside building.	

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Image #	Description	Overview of general and typical as-found conditions August 14, 2017
14	Interior, broken exterior doors.	

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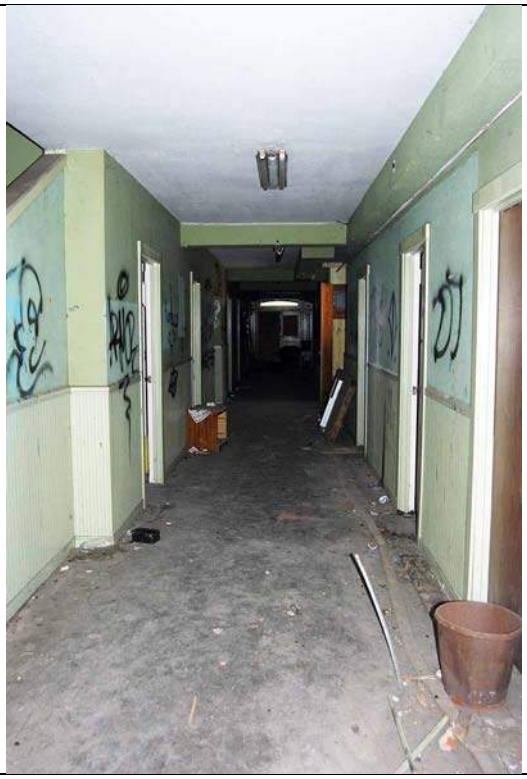
Image #	Description	
15	Interior, typical double-loaded corridor. Dry, finishes sound.	

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Image #	Description	
16	Interior, typical stair between first and second floors. Dry, finishes sound.	

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Image #	Description	
17	Interior, typical double-loaded corridor. Evidence of water damage; materials and finishes not sound.	

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Image #	Description	
18	Interior, typical double-loaded corridor. Plant growth through board-up.	
19	Interior; view of wood-framed gabled roof structure and board sheathing.	

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Image #	Description	
20	Interior; dining room, view south southwest. Poor condition of finishes and materials due to water damage at roof level.	
21	Interior; dining room, typical window. Glass is broken.	

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Image #	Description	
22	Interior; dining room, ceiling. Reinforced concrete roof deck system (pan joist) appears to be sound. Total failure of plaster and expanded metal lath due to expansive corrosion.	
23	Interior; dining room column capital, decorative tiles. Tiles previously overpainted; may be historic, as decorative tiles are delineated in the archival original design and construction drawings at this location.	

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MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

RANCHO LOS AMIGOS, SOUTH CAMPUS
Casa Consuelo (LACO No. 1238)
August 16, 2017

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***Recorded by:** *Rebecca L. Silva, Sapphos Environmental, Inc.* ***Date:** *June 2, 2008* ☐ **Continuation** ☒ **Update**

This is an update to two previous surveys:

1 **Resource Identifier:** *Rancho Los Amigos Medical Center* **CHR Status Code:** *2D2*
McAvoy, Christy J. 1994 Northridge Earthquake Project Review: Rancho Los Amigos Medical Center: Survey of Earthquake Damaged Properties for Purposes of Section 106 Review. Historic Resources Group. 26 July 1995

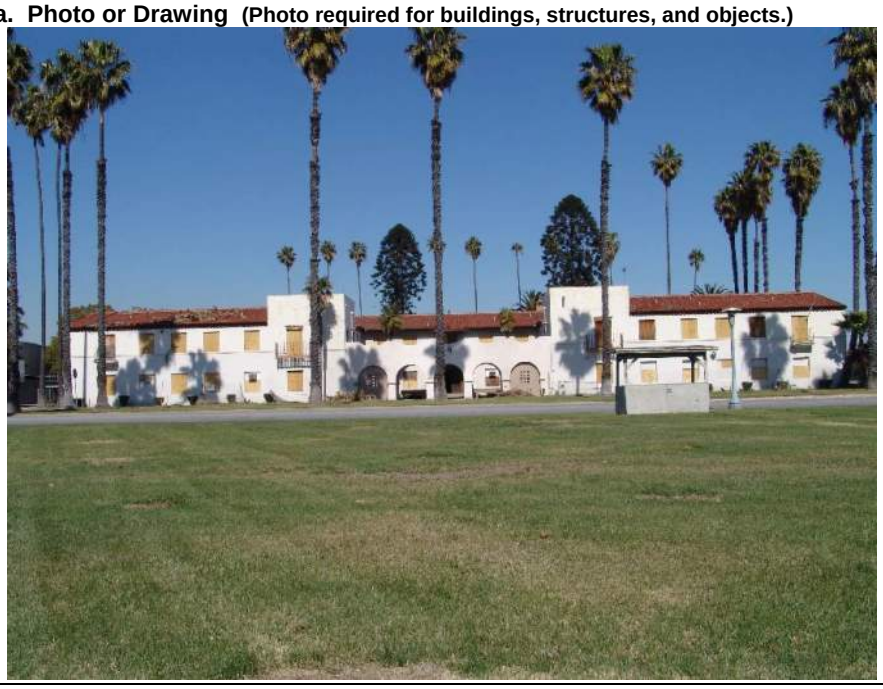
2. **Resource Identifier:** *LACO #1238* **NR Status Code:** *3[S]*
Post/Hazeltine Associates. Intensive Historic Structures/Sites Survey for The South Campus of Rancho Los Amigos Rehabilitation Center, Los Angeles County, California. 19 March 2004.

***P3a. Updated Description:**

Casa Consuelo (LACO No. 1238) is located directly north of Consuelo Street at the intersection of Consuelo Street and Dahlia Avenue and faces the broad lawn located to the southwest of Consuelo Street. Designed in the Spanish Colonial Revival style, the two-story building has an irregular H-shaped plan with projecting wings and features. It horizontally massed beneath a complex hipped and gabled roof covered in red clay tiles. Casa Consuelo is constructed of board-form concrete painted white and sits on a concrete foundation. A stringcourse wraps the exterior walls beneath the second story. Courtyards set behind arcades are located on the south (primary), north and east elevations. Square, flat-roofed towers abut the arcade on either side on the south. A decoratively scalloped, wooden frieze board wraps the walls beneath shallow eaves, except in the courtyards where carved brackets support overhanging eaves. Scalloped parapets top each arcade. Impost moldings trim the piers. The east and west bays of the south arcade are blind and pierced by vents composed of twelve small square openings. Attic vents in the gable ends are small, rectangular openings filled with a zigzag design of clay tiles. Wrought iron balconies in the towers, end and middle bays, and courtyards are variously designed, with corbelled supports or wrought iron brackets; some are shaded by hoods that extend from the roof on wrought iron brackets.

(See Continuation Sheet 2 of 3.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) *Overview of South Façade, Facing North, January 29, 2007*

***P6. Date Constructed/Age and Sources:** *1930 according to historic aerial photographs and Fliedner, Colleen Adair. 1990. Centennial, Rancho Los Amigos Medical Center, 1888-1988. Downey, California: Rancho Los Amigos Medical Center.*

***P8. Recorded by:**
Rebecca L. Silva
Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, CA 91107

***P9. Date Recorded:**
June 2, 2008

***P10. Survey Type:** (Describe)
Intensive Survey Update

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") *Sapphos Environmental, Inc., June 2010. Rancho Los Amigos Historic District Update Report, Prepared for the County of Los Angeles.*

***Recorded by:** *Rebecca L. Silva, Sapphos Environmental, Inc.* ***Date:** *June 2, 2008* ☐ **Continuation** ☒ **Update**

***P3a. Updated Description (continued from page 1):**

Fenestration consists of wood-framed, flat-headed single and double casement windows recessed into the window openings with slightly projecting concrete sills. The primary south entrance and secondary east entrance are set within flattened arch recesses and contain paneled and glazed double doors and sidelights adorned with spindle grilles and topped by transoms. Additional entrances are located on both the north and west elevations and contain non-original double metal doors. At least one original wrought iron pendant light illuminates one entry.

Mature trees, shrubs, grass, and vestiges of the original Mediterranean landscaping provide the setting for Casa Consuelo. Concrete sidewalks surround the building and concrete driveways are located on north and west elevations. The property is in deteriorated condition and its windows and doors are covered with boards. The building retains sufficient integrity to convey its period of significance.

***B6. Updated Construction History:** (Construction date, alterations, and date of alterations)

No building permits were found for this building. Alterations as they appear from original architectural drawings and historic photographs include: replacement of some original doors and windows.

***B10. Updated Significance:**

This property was determined eligible for listing in the National Register of Historic Places under Criterion A as a contributor to the Rancho Los Amigos Historic District on September 30, 1996. It is therefore also listed in the California Register of Historical Resources under Criterion 1. The current study confirmed the significance of Casa Consuelo (LACO No. 1238) as a contributor to the Historic District under Criterion A/1,association with events that have made a significant contribution to the broad patterns of local or regional history. The property is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. In addition, the building illustrates several of the distinctive characteristics of the Spanish Colonial Revival style, including its red clay tile roof, decorative use of wood and wrought iron, and incorporation of arcades, courtyards, and balconies into its design. Resembling a women's dormitory more than a hospital building, the Casa Consuelo also appears to be eligible to the National Register of Historic Places and California Register of Historical Resources under Criterion C/3. The building was erected in 1930 as the second women's ward for the County Poor Farm. Casa Consuelo provided a private and separate area for the women patients of the Poor Farm in a planned setting more conducive to their needs and comfort. The building served in this capacity until it was later converted to office and storage space. It is currently abandoned.

Although the building has suffered minor alterations, its exterior appearance still reflects its period of construction. An example of the Spanish Colonial Revival style, the building retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained its Spanish Colonial Revival style character-defining features: horizontal massing; white-washed board form concrete exterior walls; arcades; courtyards; red-clay tile roof; decorative wooden frieze board and roof brackets; second-floor balconies with wrought iron railings; and architectural details, such as stringcourses and impost moldings. Its setting has been altered by the deterioration of the surrounding landscape.

(See Continuation Sheet 3 of 3.)

***B10. Updated Significance (continued):**

History:

Established in 1888, the Los Angeles County Poor Farm is an important institution in the public welfare and health care history of the County of Los Angeles. The County Poor Farm was built to provide a publicly-funded facility to house indigents with the Los Angeles County hospital system. In its role as a farm, the County Poor Farm supplied agricultural products to other Los Angeles County institutional facilities during the first half of the 20th century. Beginning in 1907 with the construction of the psychiatric wards, the County Poor Farm began to transition away from the provision of indigent care and focus instead on the treatment of patients with chronic medical and/or psychiatric conditions. By 1952, the former County Poor Farm, renamed Rancho Los Amigos in 1932, had evolved into a medical hospital that specialized in the rehabilitative care of persons with physical disabilities, and was especially associated with the treatment of polio. By the end of 20th century, the Historic District had been largely vacated (except for storage), in favor of newer hospital buildings built north of the Historic District.

In 1929, one of the most substantial constructions at the County Poor Farm was the Casa Consuelo Building (officially named in circa 1940), which opened to residents March 11, 1930, to serve as the new Women's Ward. The original 1897 Women's Ward located on the northeast corner of Consuelo Street and Main Drive, was converted to house ambulatory men, and later demolished. Superintendent William R. Harriman's wife, Elinor, was reportedly very involved in the design of the new Women's Ward.[1] According to the Los Amigos Rancho Annual Report of 1928-29, "The new building was planned to house approximately 200 women patients, with one-half of its rooms planned to accommodate two patients. . . . All of these are outside rooms well lighted and ventilated with steam heat and both hot and cold water in every room. There are three courtyards and sun porches on the second floor. Instead of attempting to provide a single large day room for these patients there are six parlor rooms on each floor."

[1] Fliedner, Colleen Adair. "Centennial, Rancho Los Amigos Medical Center, 1888-1988." Rancho Los Amigos Medical Center. Downey, California: 1990. p. 149.

MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

RANCHO LOS AMIGOS, SOUTH CAMPUS
Casa Consuelo (LACO No. 1238)
August 16, 2017

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12 S. Fair Oaks Avenue, Suite 200, Pasadena, CA 91105-1915
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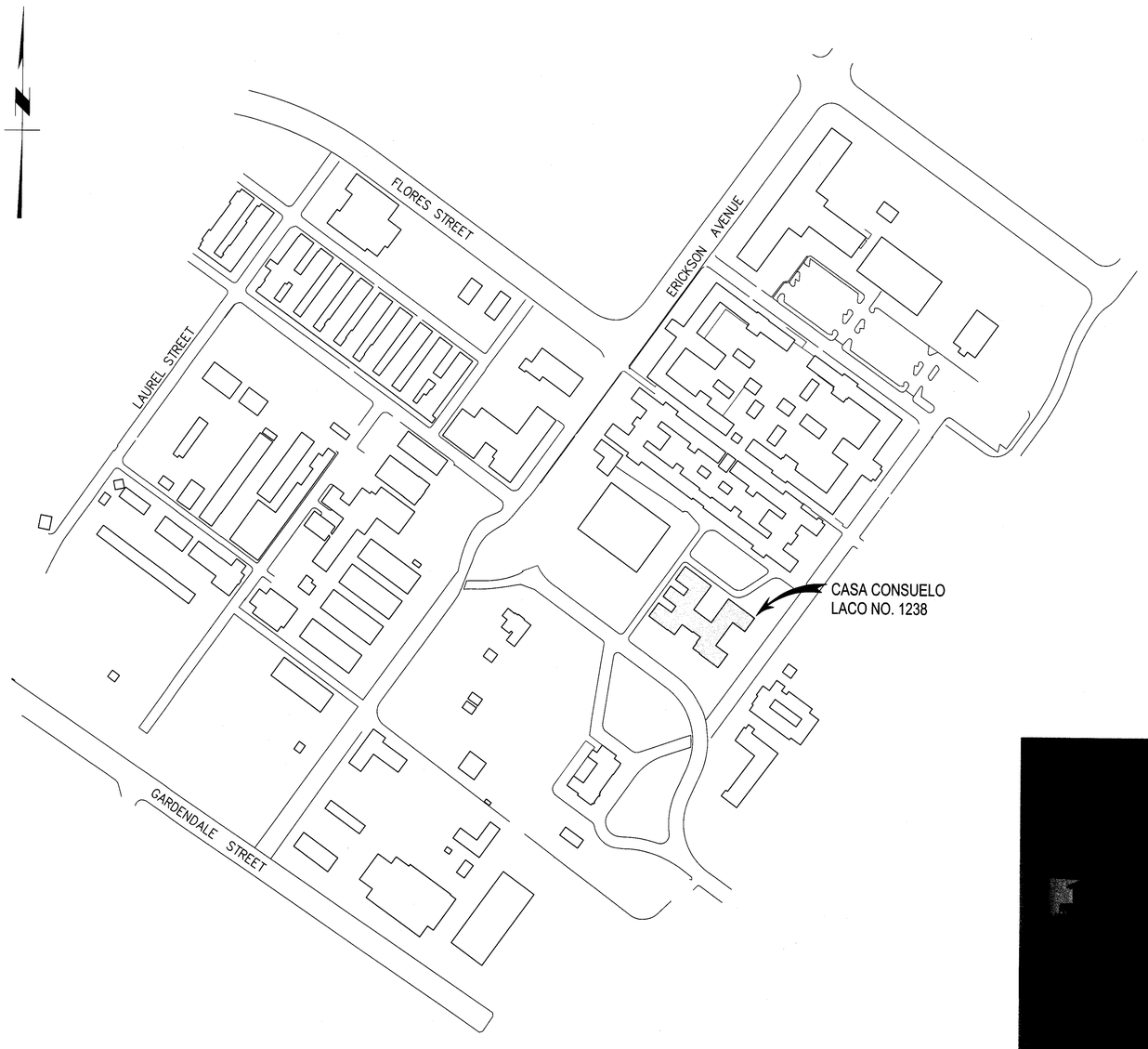
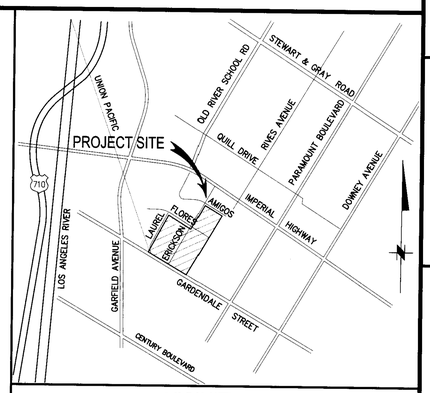
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER

RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
CASA CONSUELO (LACO NO. 1238)

7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242

August 2, 2007

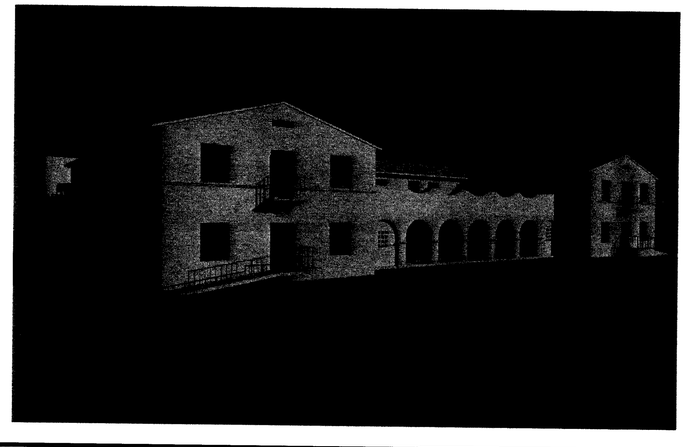




VICINITY MAP

BENCHMARK

B.M. NO. Y 10723 LOS ANGELES COUNTY DATUM (SOUTH GATE)
LACO BM TAG IN W CB 13.7M N/O BCR @ NW COR OLD RIVER SCHOOL RD & IMPERIAL HWY 35M N & 9.7 M W/O C/L INT
ELEVATION = 95.233 (2000 ADJUSTMENT)



Sheet List Table

General	
G-100	Cover Sheet
Architectural: Plans	
A-101	First Floor Plan
A-102	Second Floor Plan
A-103	Roof Plan
Architectural: Elevations	
A-201	Exterior Elevations

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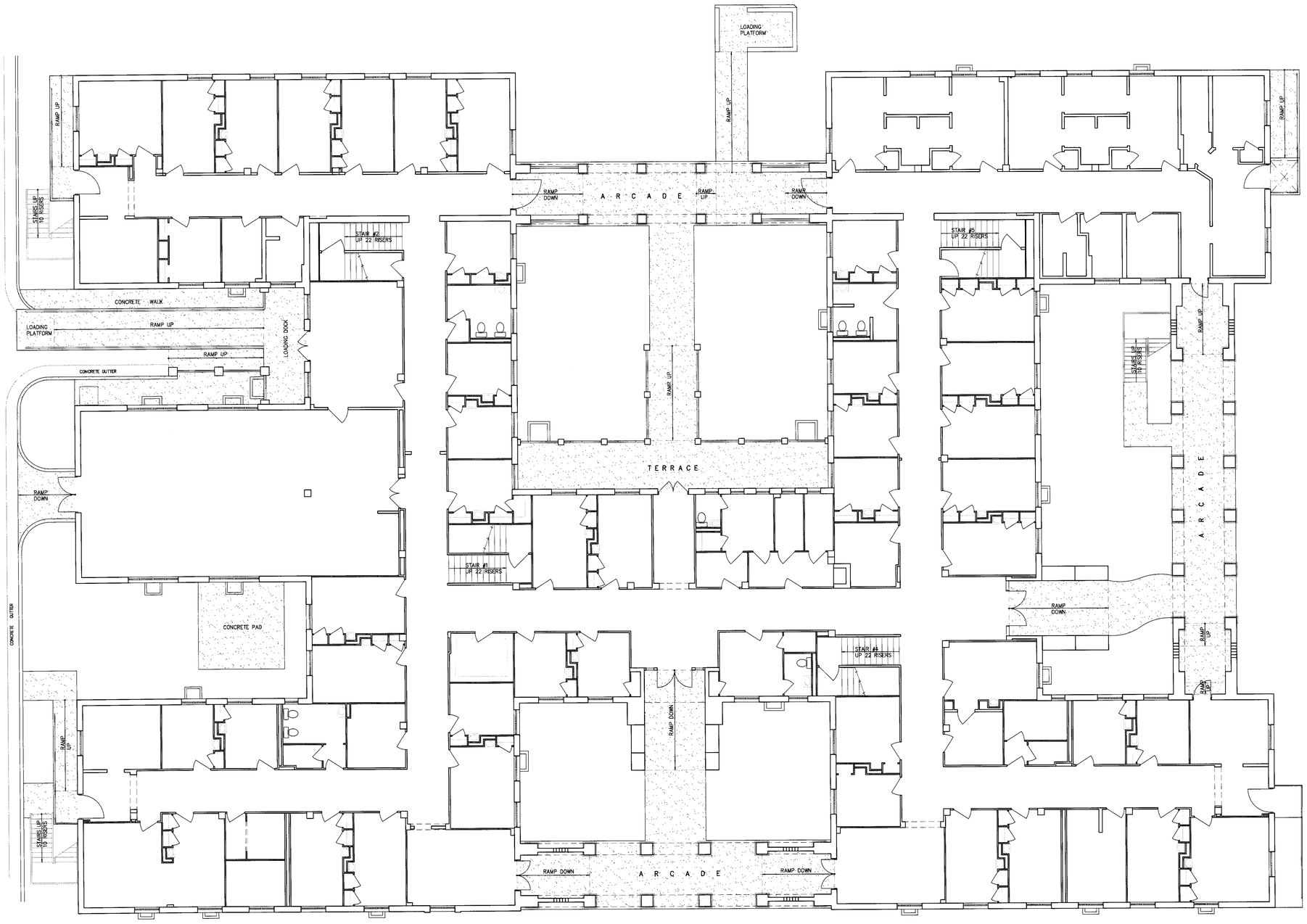
RANCHO



FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

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BY	REVISION	DATE

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RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER

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CASA CONSUELO (LACO NO. 1238)

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STATE OF CALIFORNIA

Kevin R. Hills 6617

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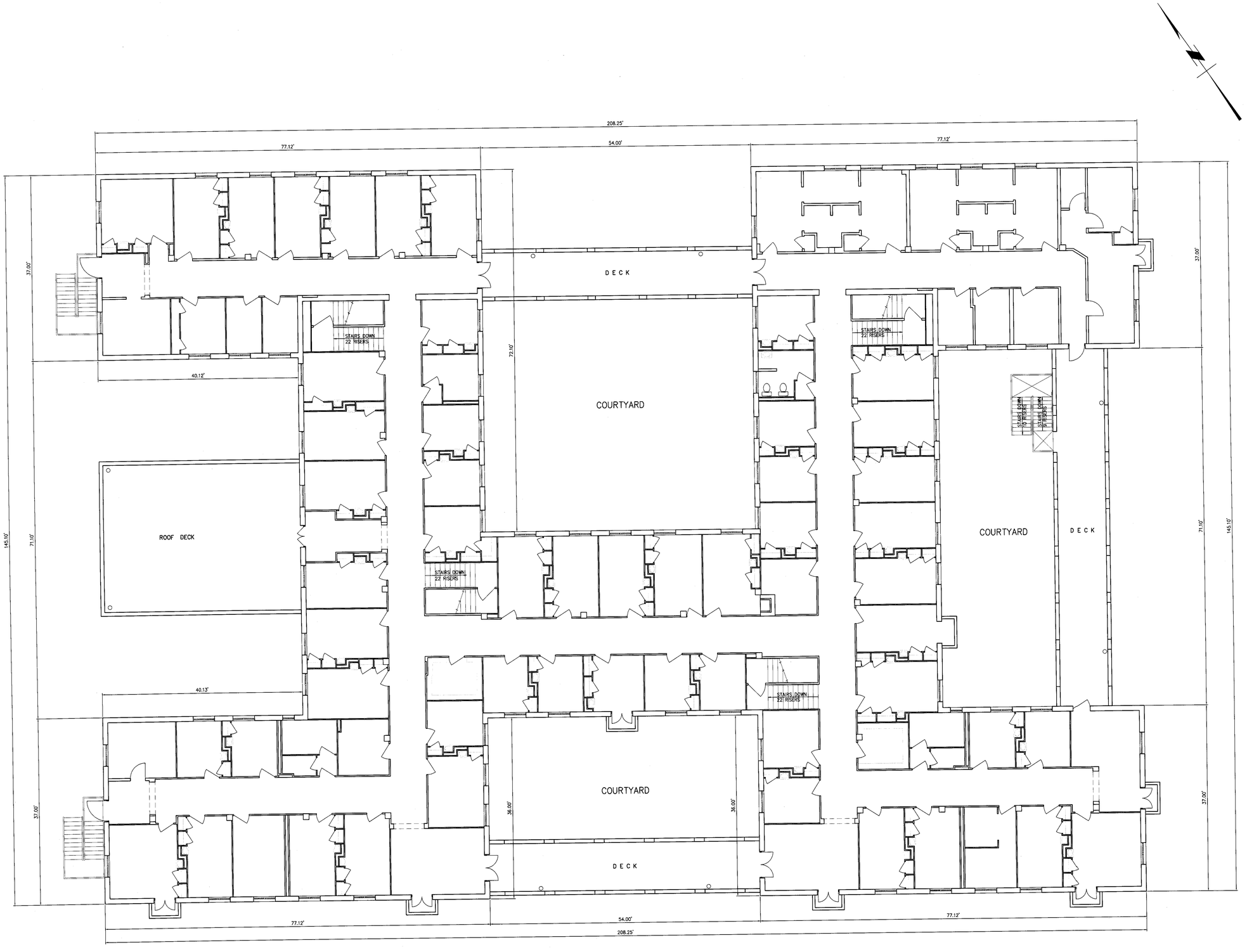
SHEET TITLE

FIRST FLOOR PLAN

A-101



SECOND FLOOR PLAN

SCALE: 1/8" = 1'-0"

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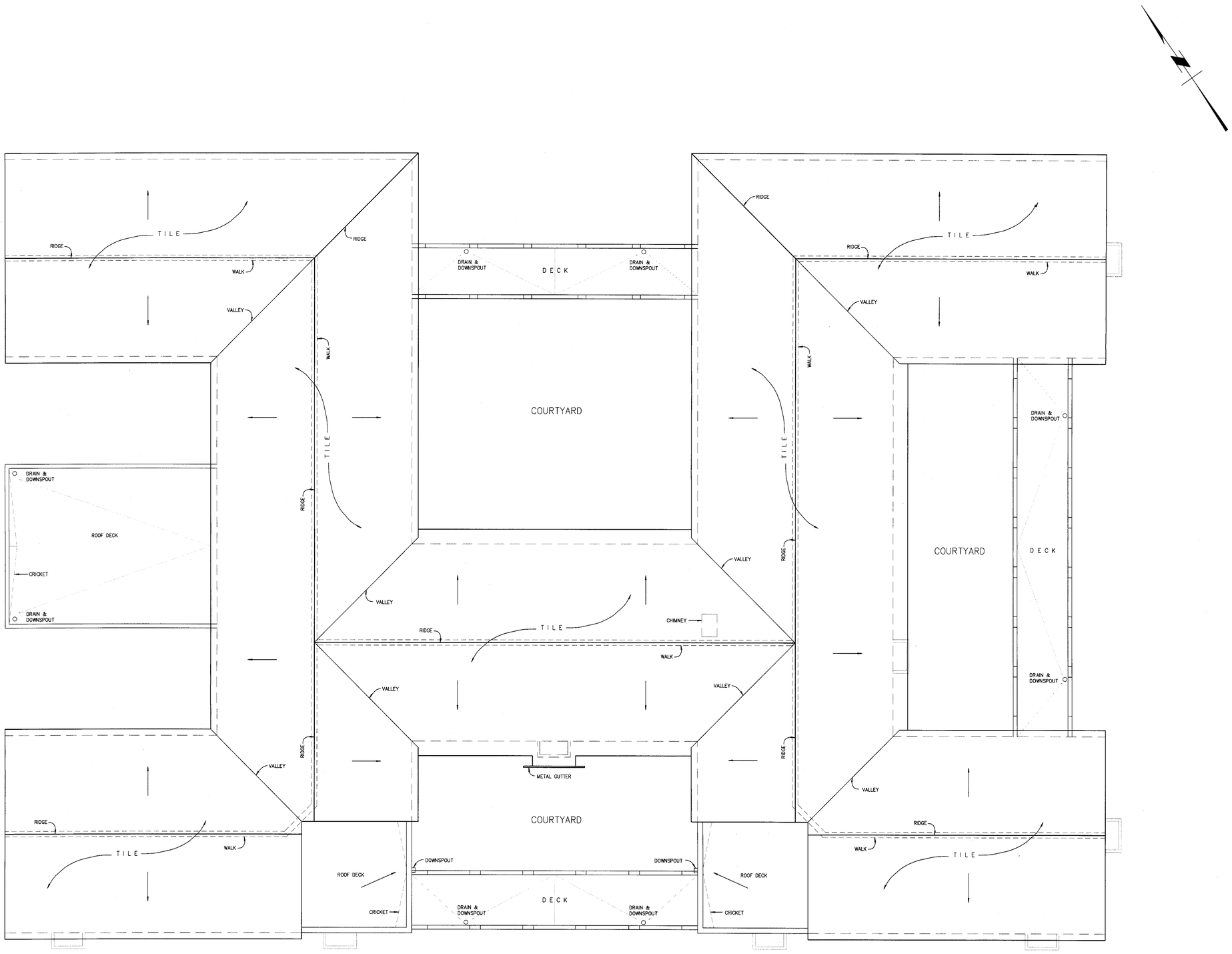
SECOND FLOOR PLAN

A-102

SHEET 3 OF 5



ROOF PLAN

SCALE: 1/8" = 1'-0"

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SHEET TITLE

ROOF PLAN

A-103

SHEET 4 OF 5

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WEST ELEVATION

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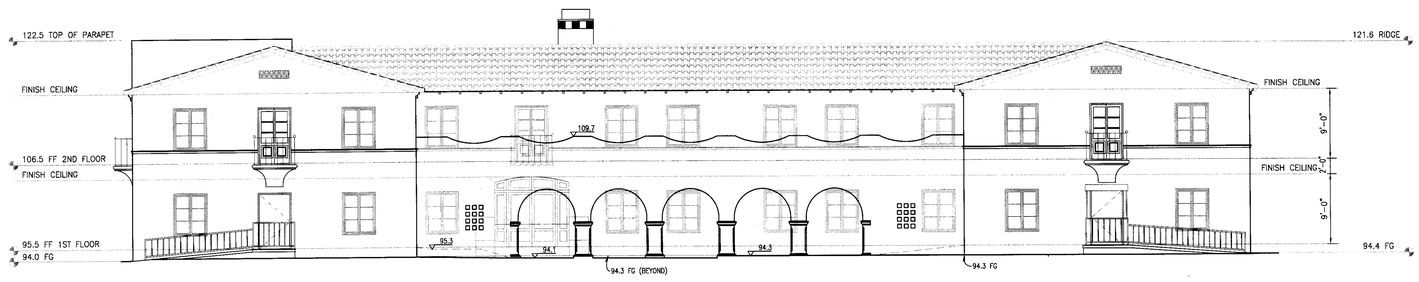

EAST ELEVATION

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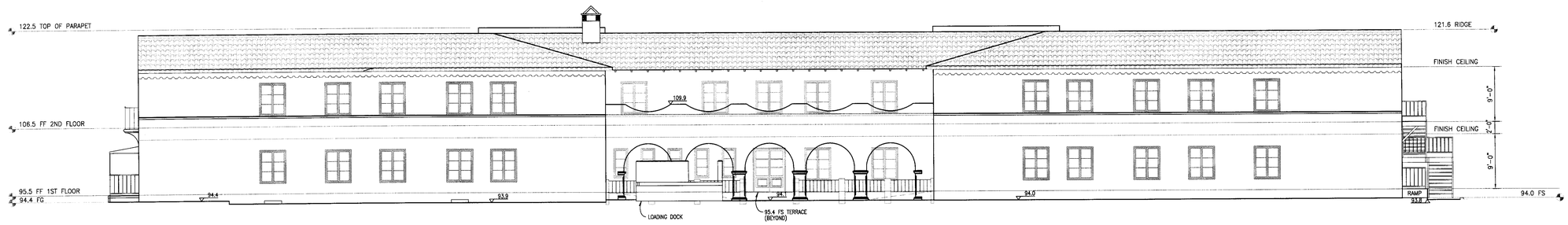

NORTH ELEVATION

SCALE: 1/8" = 1'-0"

SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

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SHEET TITLE

EXTERIOR ELEVATIONS

A-201

SHEET 5 OF 5

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MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

RANCHO LOS AMIGOS, SOUTH CAMPUS
Casa Consuelo (LACO No. 1238)
August 16, 2017

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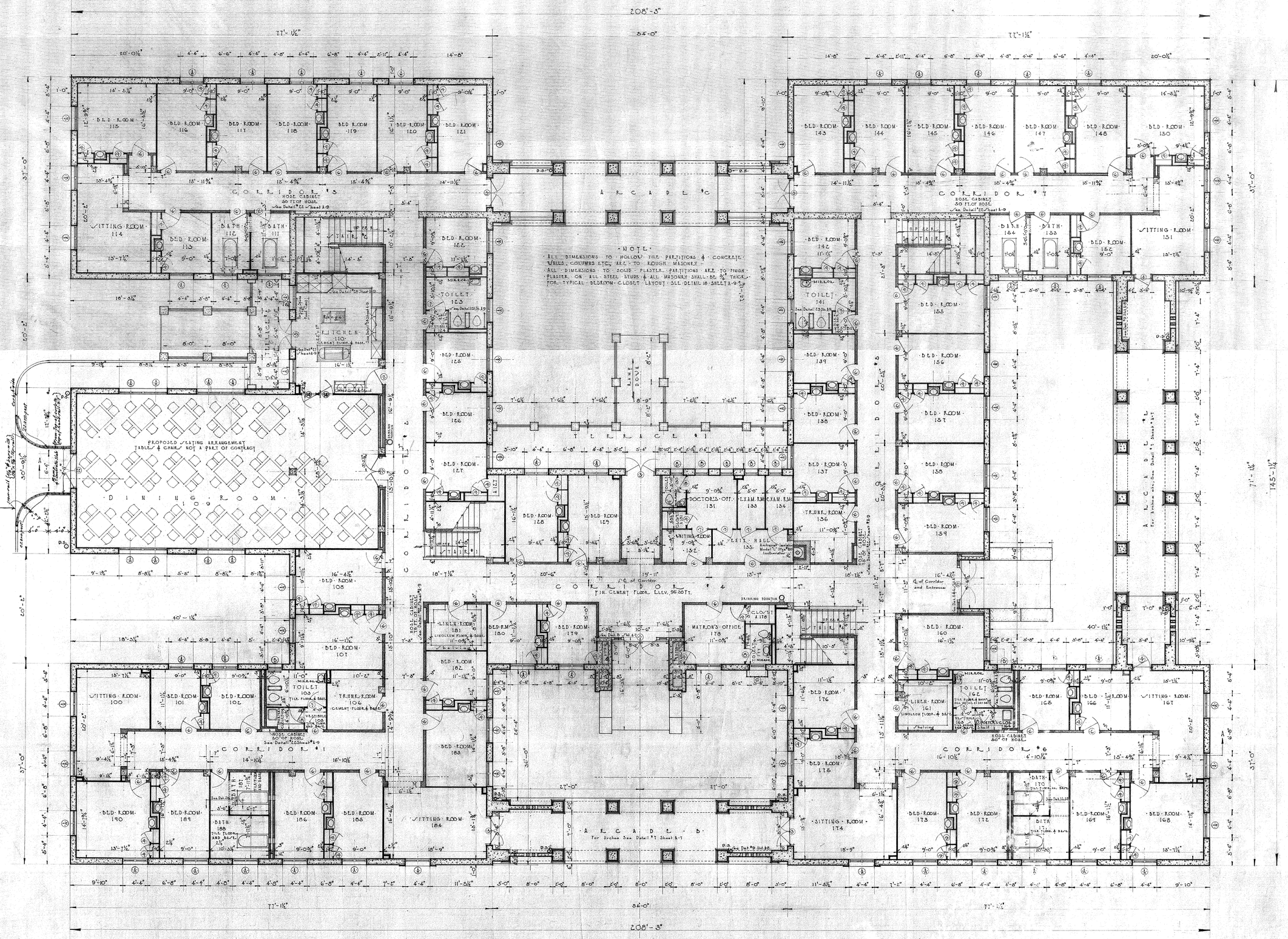

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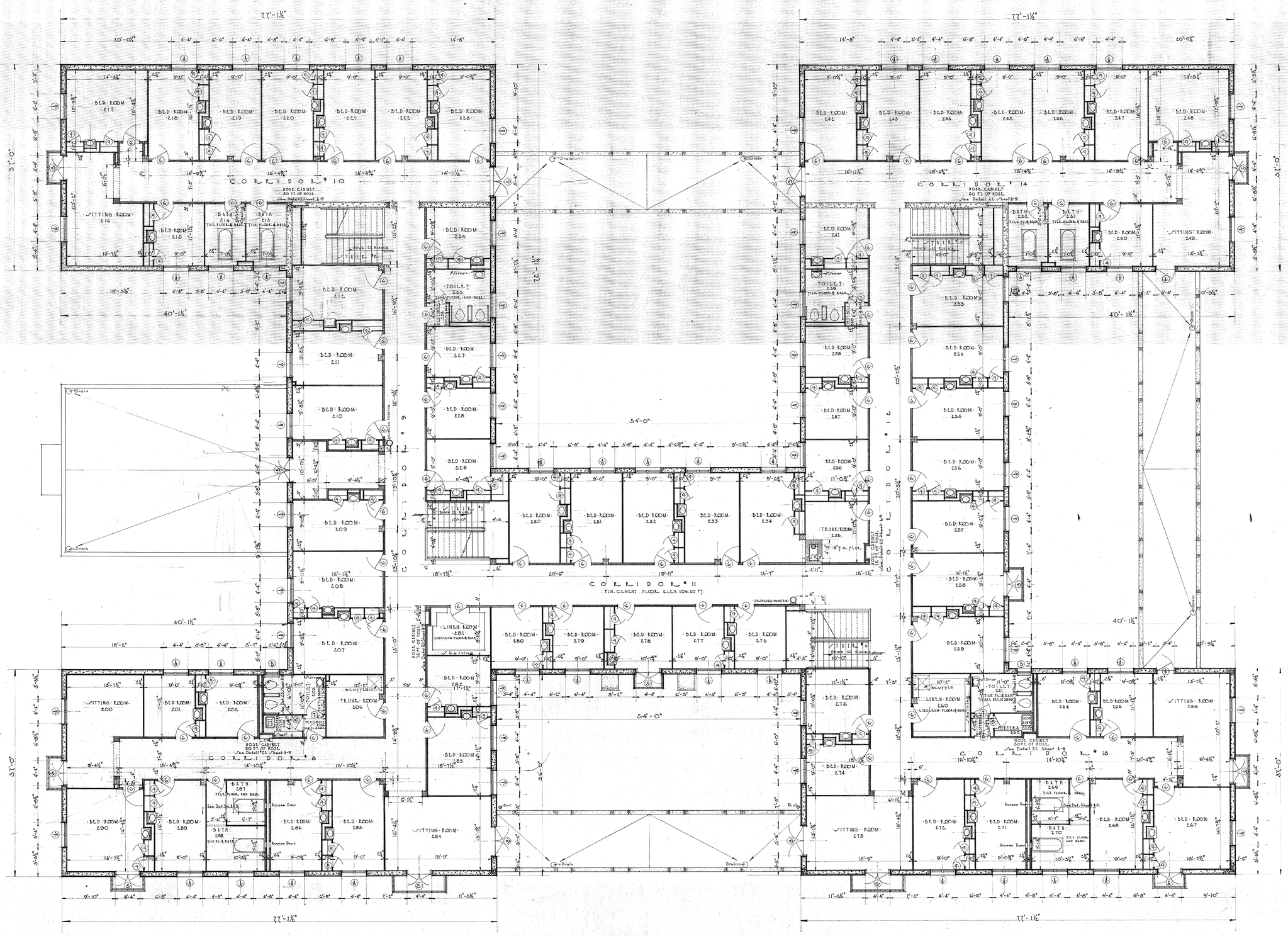
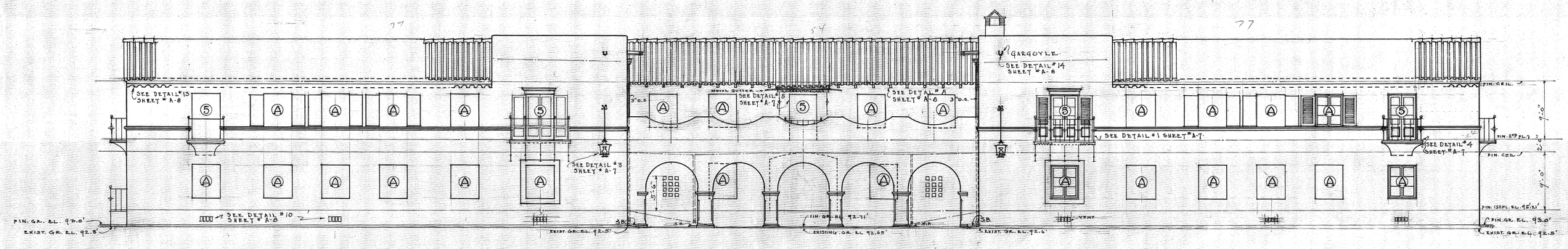
TRACED BY ·G·F·W·	·DEPARTMENT·OF·THE·COUNTY·ARCHITECT· COUNTY OF LOS ANGELES	1928
CHECKED BY ·H·C·S·	COUNTY ARCHITECT	
	SUPERINTENDENT IN CHARGE — SUPERVISOR IN CHARGE OF CONSTRUCTION	



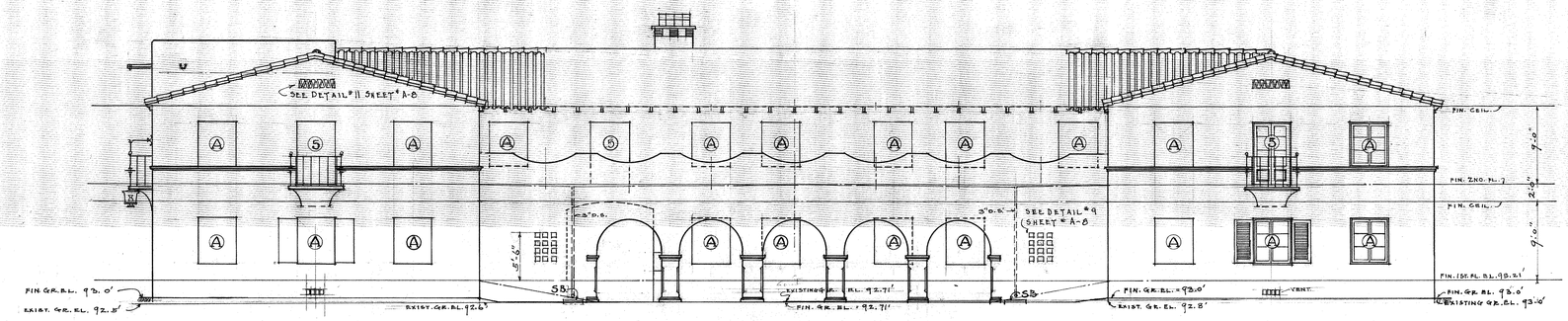
CASA CONSUELO

JOB NO. 2928	·SECOND·FLOOR·PLAN· ·WOMENS·WARD·BUILDING· ·AT· ·LOS·ANGELES·COUNTY·FARM·	SHEET NO. A-3
DRAWN BY ·H·C·S· TRACED BY ·G·F·W· CHECKED BY ·H·C·S·	·DEPARTMENT·OF·THE·COUNTY·ARCHITECT· COUNTY OF LOS ANGELES Karl W. Muck COUNTY ARCHITECT	DATE 5-21-28 1928
	W. H. Holland SUPERINTENDENT IN CHARGE — SUPERVISOR IN CHARGE OF CONSTRUCTION	

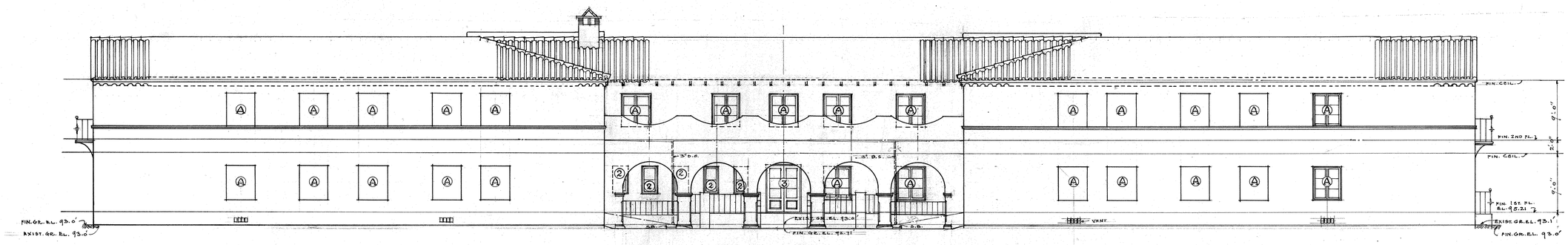
180.10



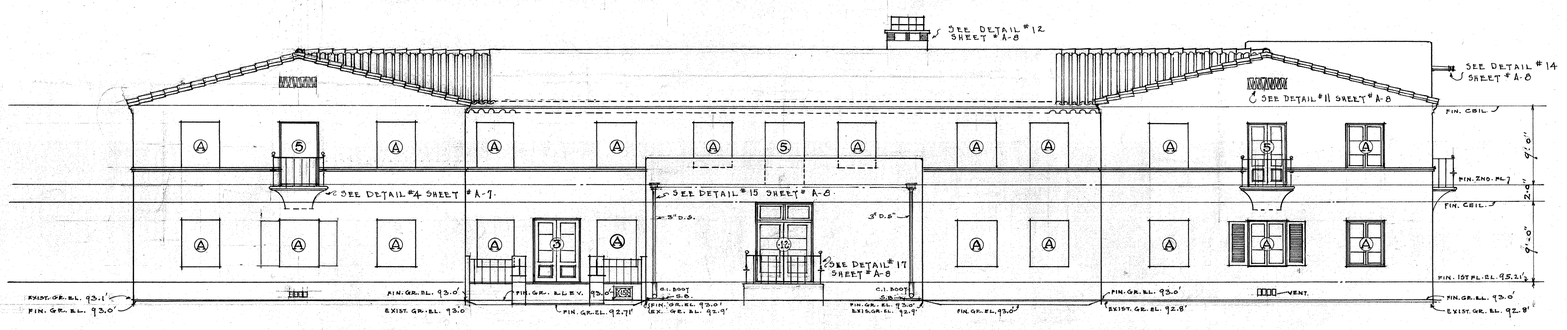
SOUTH ELEVATION



EAST ELEVATION.



NORTH ELEVATION.



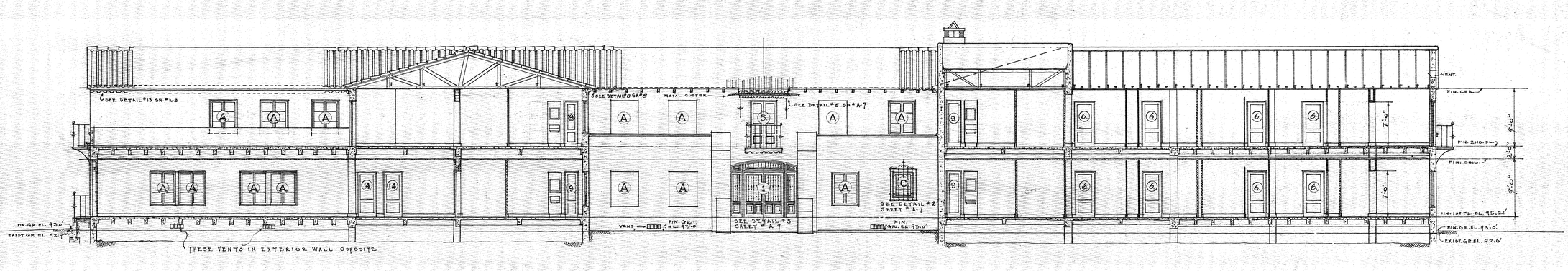
WEST ELEVATION.

SCALE = 1/8" = 1'-0"

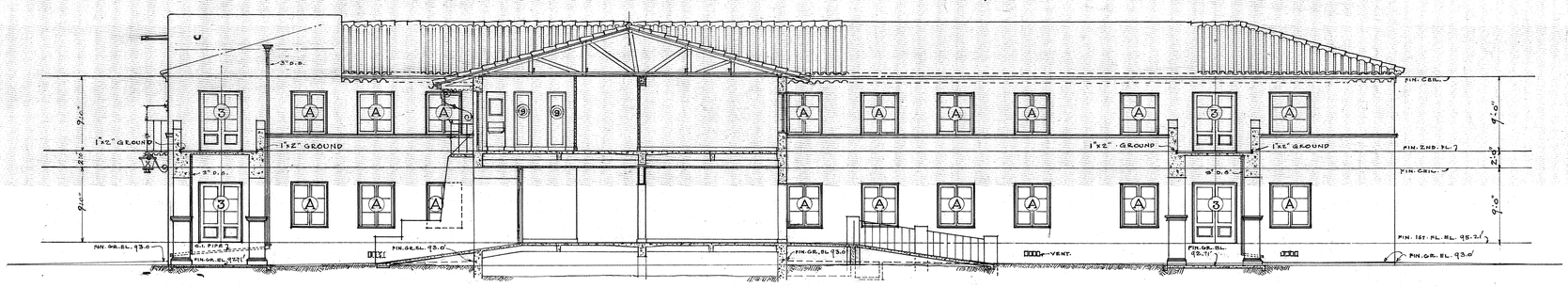
CHECK CONCRETE

JOB NO. 2928	· ELEVATIONS · WOMENS · WARD · BUILDING · AT: · LOS · ANGELES · COUNTY · FARM ·	SHEET NO. A-4
DRAWN BY · G.A.H.	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	DATE 5-21-28
TRACED BY · G.A.H.	Karl Dennell COUNTY ARCHITECT	1928
CHECKED BY · H.C.S.	W. H. Holland SUPERINTENDENT IN CHARGE — SUPERVISOR IN CHARGE OF CONSTRUCTION	

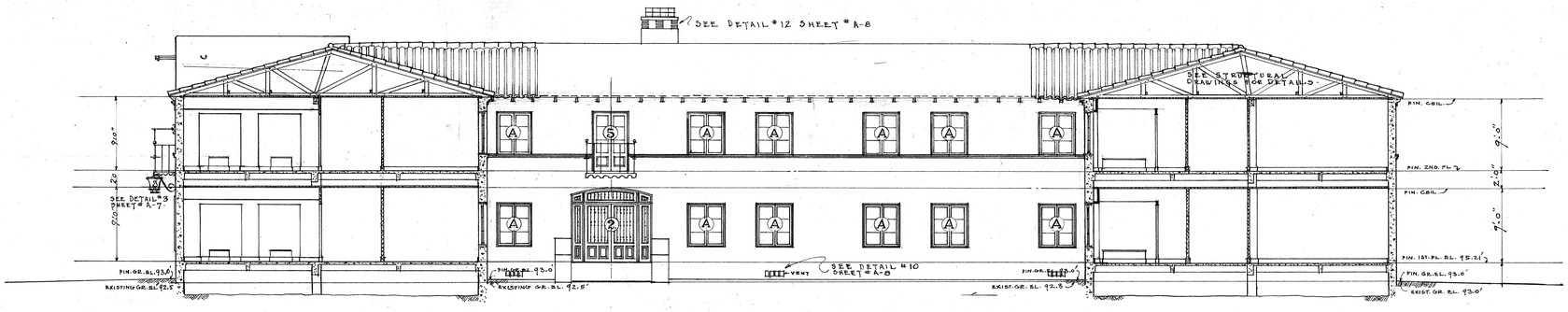
130.10



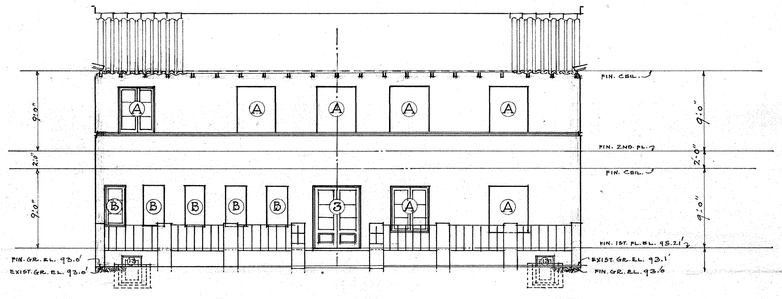
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

SCALE: 1/8" = 1'-0"

NOTE: 2" THICK BLOCKING TO BE PLACED AT ALL PLACES WHERE 3" HOLLOW TILE PARTITIONS JOIN CEILINGS, OF SECOND FLOOR.
SEE STRUCTURAL DRAWINGS FOR FOUNDATION & FOOTINGS.

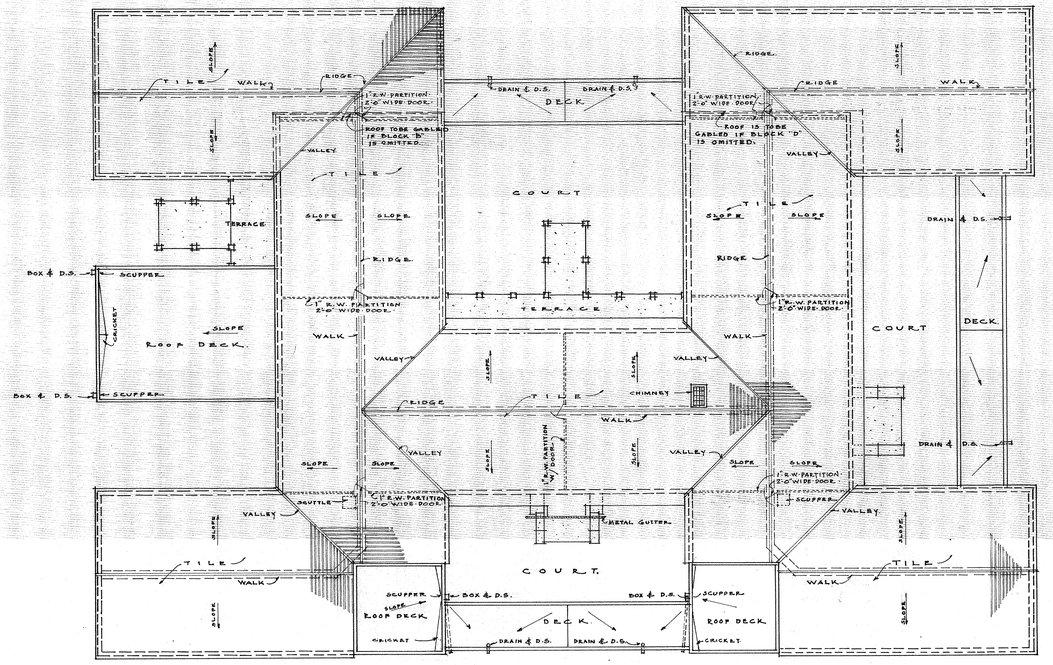
CASA CONSUELO

JOB NO. 2928	·SECTIONS·AND·ELEVATIONS· ·WOMENS·WARD·BUILDING· ·AT· ·LOS·ANGELES·COUNTY·FARM·	SHEET NO. A-5
DRAWN BY ·G·A·H· TRACED BY ·G·A·H· CHECKED BY ·H·C·S·	·DEPARTMENT·OF·THE·COUNTY·ARCHITECT· COUNTY OF LOS ANGELES Karl W. Muck COUNTY ARCHITECT	DATE 5-21-28 1928
	W. H. Holland SUPERINTENDENT IN CHARGE — SUPERVISOR IN CHARGE OF CONSTRUCTION	

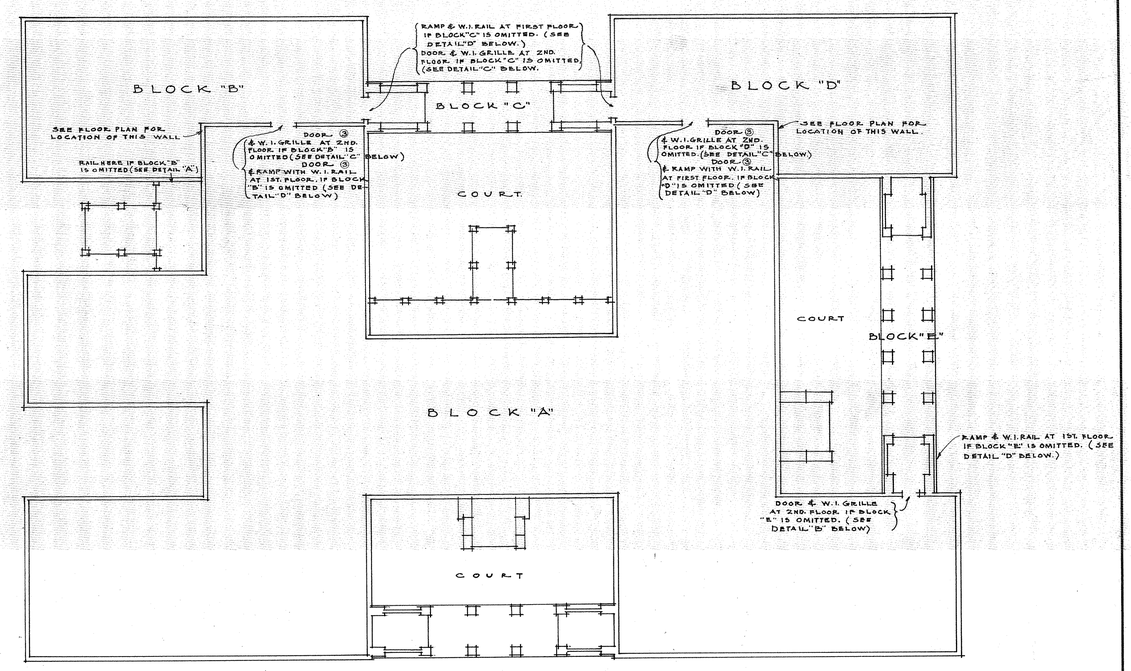
39

130·13

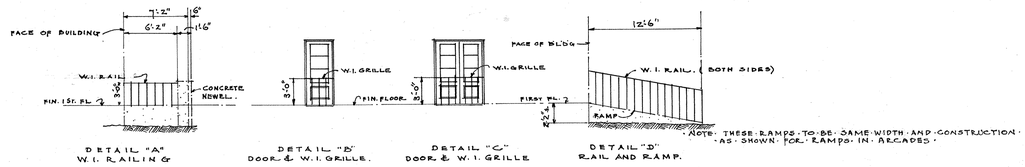
130-10



ROOF PLAN.
SCALE = 1/16" = 1'-0"



KEY PLAN
SCALE = 1/16" = 1'-0"



DETAIL "A"
W.I. RAILING

DETAIL "B"
DOOR & W.I. GRILLE.

DETAIL "C"
DOOR & W.I. GRILLE

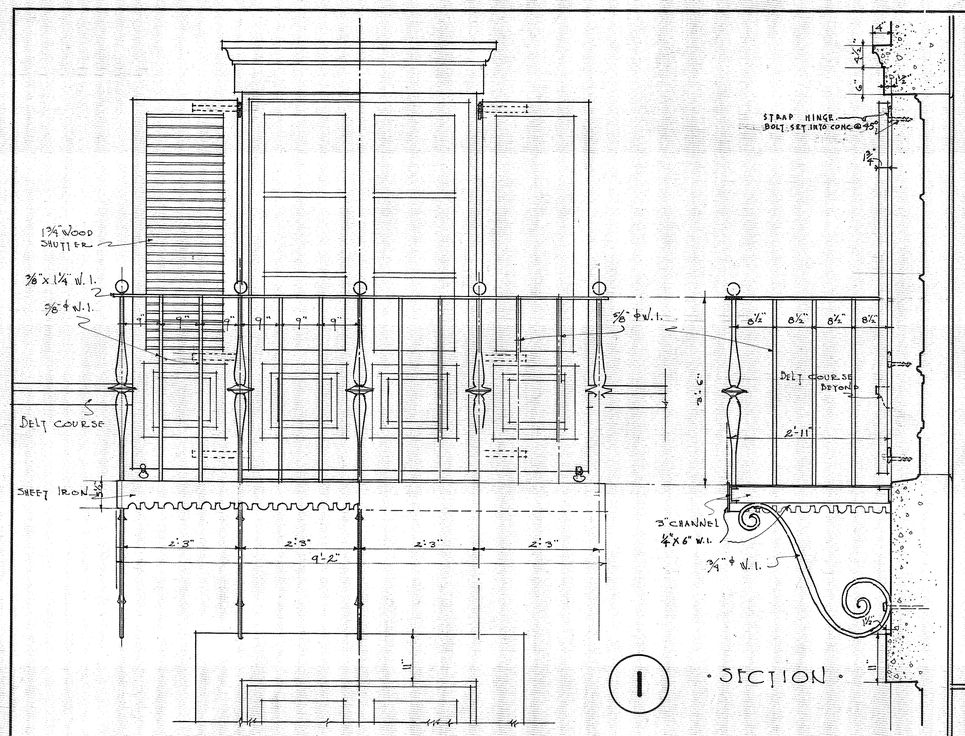
DETAIL "D"
RAIL AND RAMP.

NOTE: THESE RAMPS TO BE SAME WIDTH AND CONSTRUCTION AS SHOWN FOR RAMPS IN ARCADES.

CASA CONSUELO

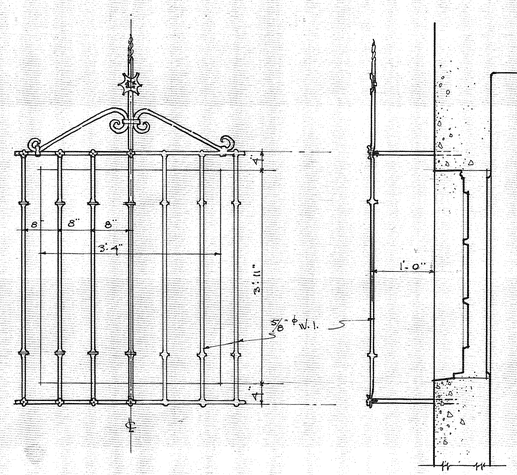
JOB NO. 2928	ROOF & BLOCK PLAN WOMENS WARD BUILDING AT LOS ANGELES COUNTY FARM	SHEET NO. A-6
DRAWN BY G.A.H. TRACED BY G.A.H. CHECKED BY H.C.S.	DEPARTMENT OF THE COUNTY ARCHITECT COUNTY OF LOS ANGELES Karl W. Muck COUNTY ARCHITECT W. H. Holland SUPERINTENDENT IN CHARGE SUPERVISOR IN CHARGE OF CONSTRUCTION	DATE 5-21-28 1928

130.10



1 · SECTION ·

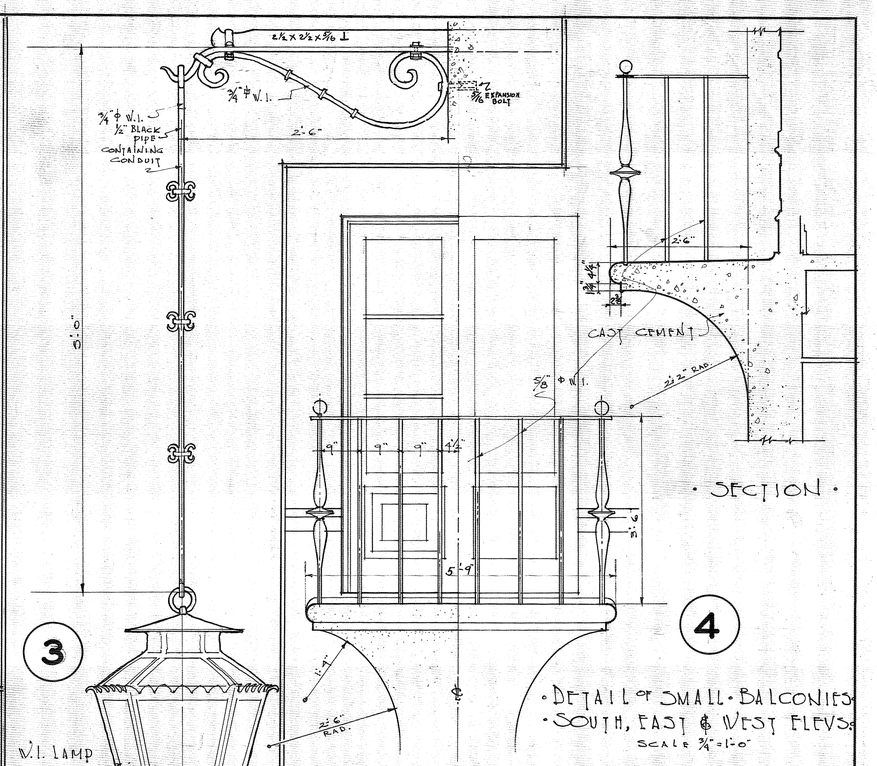
· DETAIL OF BALCONIES ON TOWERS · FRONT ELEVATION ·
SCALE ¾"=1'-0"



· SECTION ·

· DETAIL OF GRILLE OVER TOILET · WINDOW ·
· SOUTH · PATIO ·
SCALE ¾"=1'-0"

2



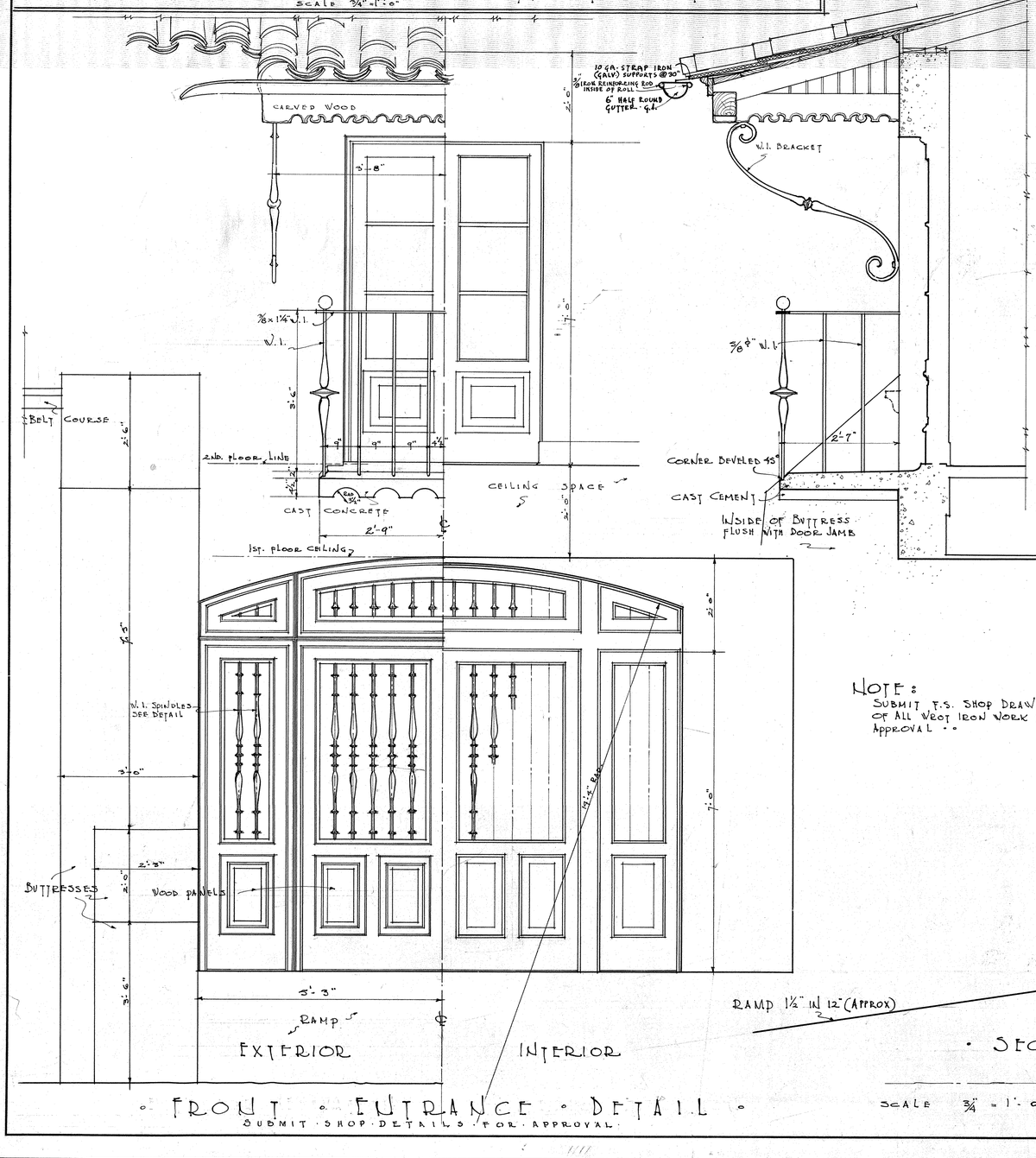
· SECTION ·

3

W.I. LAMP

4

· DETAIL OF SMALL · BALCONIES
· SOUTH, EAST & WEST ELEVS ·
SCALE ¾"=1'-0"



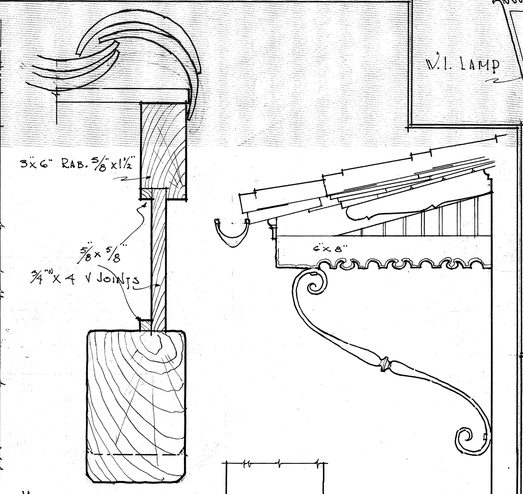
· FRONT · ENTRANCE · DETAIL ·
SUBMIT · SHOP · DETAILS · FOR · APPROVAL ·

NOTE:
SUBMIT F.S. SHOP DRAWINGS OF ALL WROT IRON WORK FOR APPROVAL . .

5

· SECTION ·
SCALE ¾" = 1'-0"

RAMP 1½" IN 12" (APPROX)

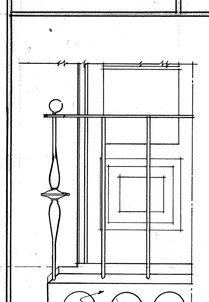


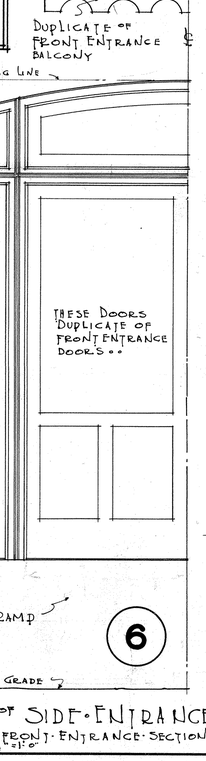
HOOD FRAMING
SCALE 3"=1'-0"

· SIDE · ELEVATION OF · HOOD ·

6"x8"

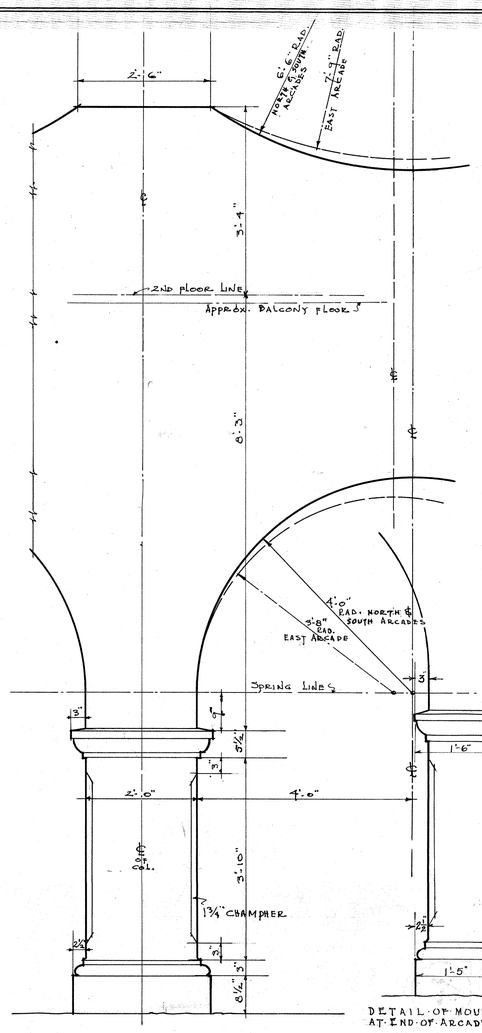
PLAN OF CORNER JOINT
SCALE 3"=1'-0"





6

· HALF · ELEVATION OF SIDE · ENTRANCE ·
· SECTION · SIMILAR · TO · FRONT · ENTRANCE · SECTION ·
SCALE ¾"=1'-0"



· TYPICAL · COLUMN · & · ARCH OF ·
· NORTH, · SOUTH & EAST · ARCADES ·
SCALE ¾"=1'-0"

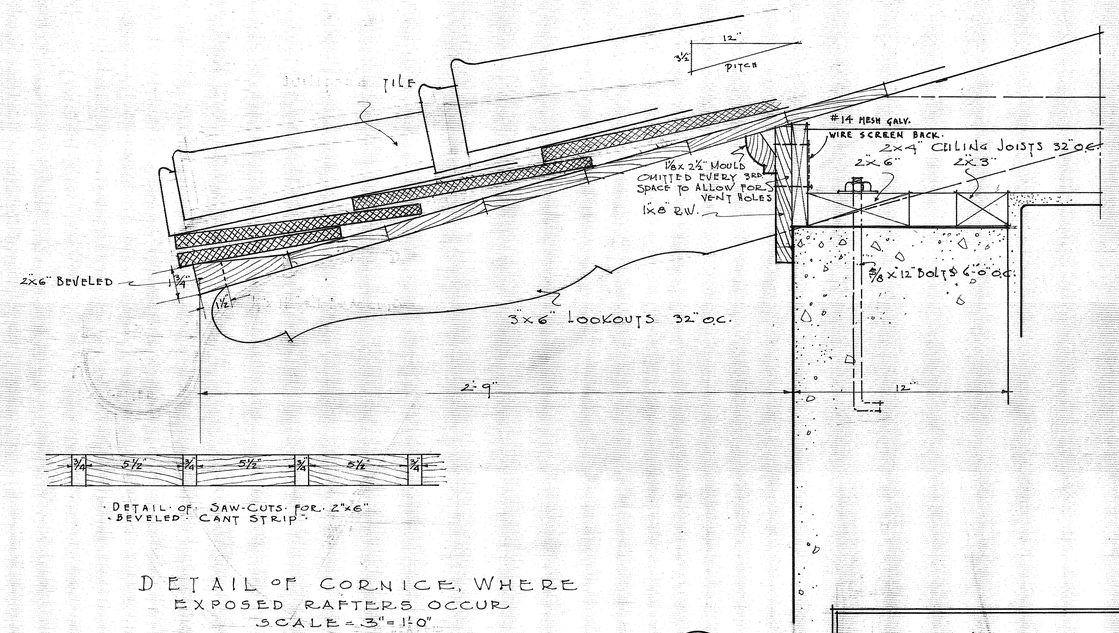
7

· EXTERIOR · DETAILS · 1 TO 7 ·

JOB NO. 2928	· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·	SHEET NO. A-7
DRAWN BY · L · L · E ·	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	DATE 5-21-28 1928
TRACED BY · L · L · E ·		
CHECKED BY · H · C · S ·	COUNTY ARCHITECT	
SUPERINTENDENT IN CHARGE	SUPERVISOR IN CHARGE OF CONSTRUCTION	

41

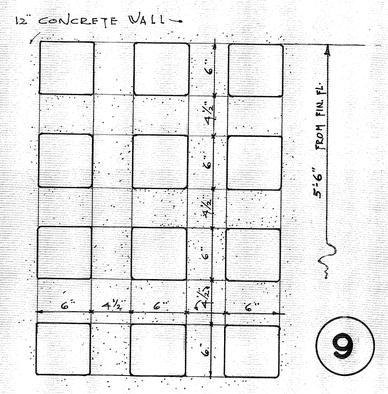
130.10



· DETAIL · OF · SAW-CUTS · FOR · 2"x6" · BEVELED · CANT STRIP ·

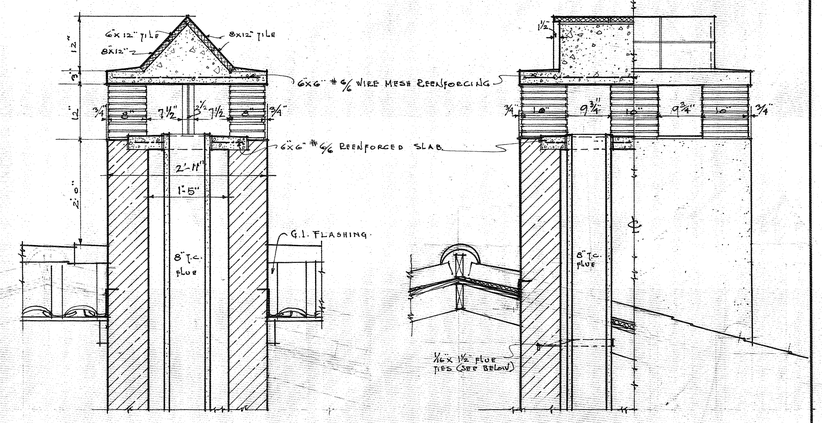
DETAIL OF CORNICE, WHERE EXPOSED RAFTERS OCCUR
SCALE - 3" = 1'-0"

8



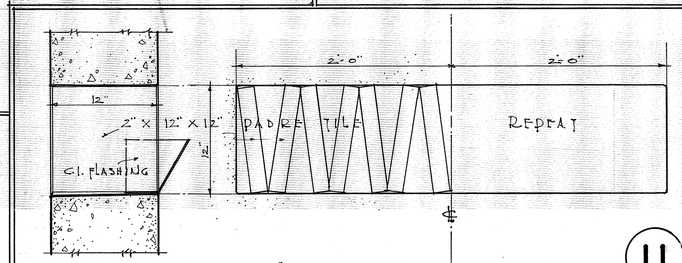
DETAIL OF PIERCINGS IN ARCADES
SCALE 1½" = 1'-0"

9



· CROSS · SECTION ·

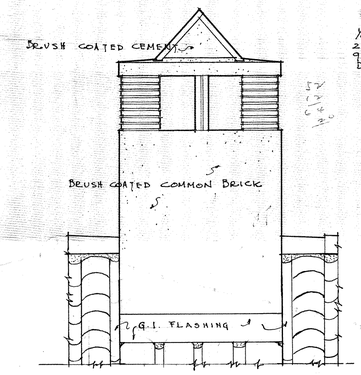
· HALF · LONGITUD··· HALF · EAST ·
· INAL SECTION · · ELEVATION ·



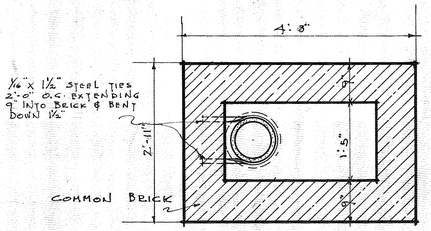
· SECTION ·

DETAIL OF GABLE VENTS
SCALE 1½" = 1'-0"

11



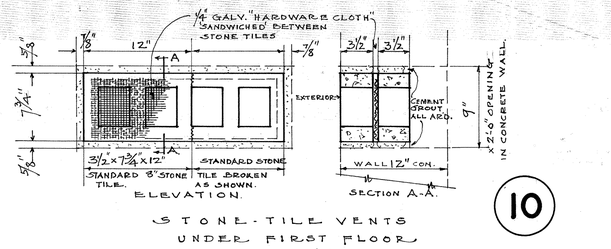
· NORTH · ELEVATION ·



· SECTION · THRU · CHIMNEY ·
· AND · FLUE ·

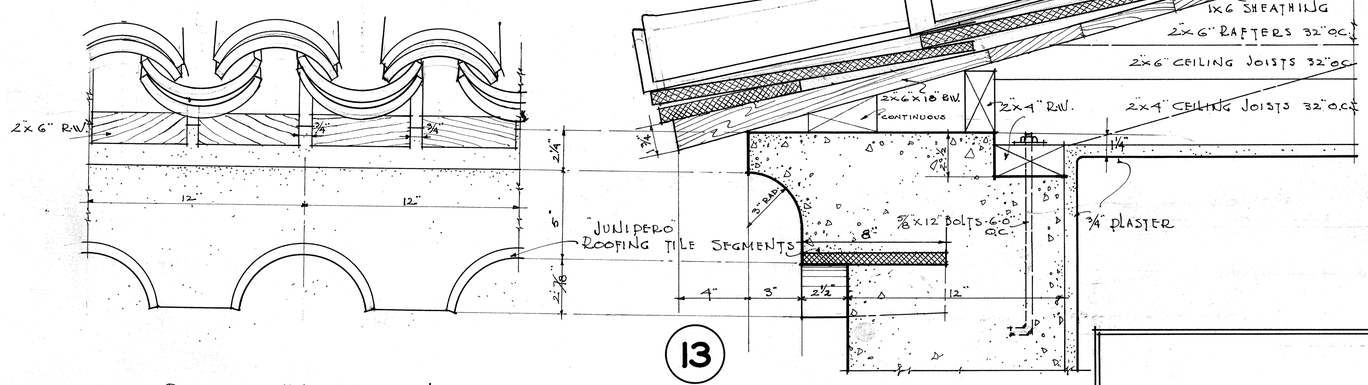
12

DETAIL OF INCINERATOR STACK
SCALE ¾" = 1'-0"



STONE-TILE VENTS UNDER FIRST FLOOR
SCALE: 1½" = 1'-0"

10



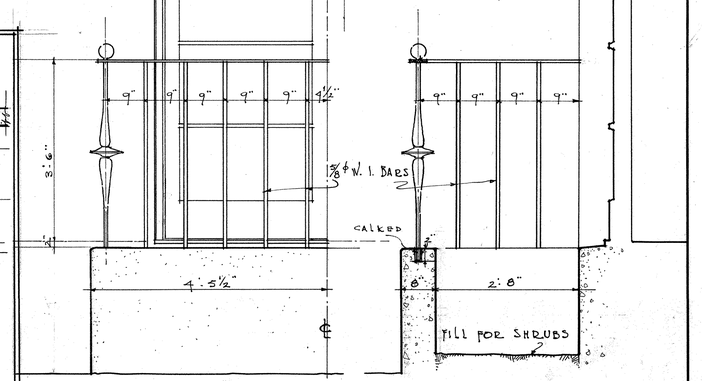
· PART · ELEVATION ·

· SECTION ·

· DETAIL · OF · CORBELLED · CORNICE ·
SCALE 3" = 1'-0"

13

NOTE:
SUBMIT FULL SIZE W.I. SHOP DRAWINGS FOR APPROVAL...

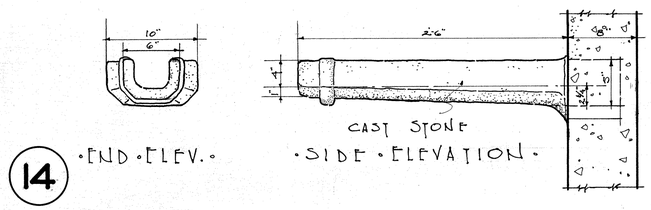


· HALF · ELEVATION ·

· SECTION ·

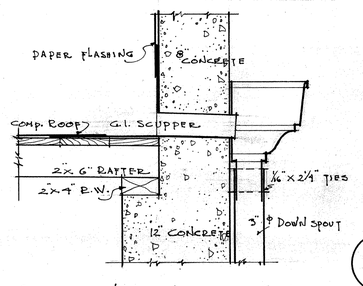
· DETAIL · OF · SHRUB · BOX · & · W. I. · RAIL ·
· WEST · END · OF · DINING · ROOM ·
SCALE · ¾" = 1'-0"

17



14 · END · ELEV. · · SIDE · ELEVATION ·

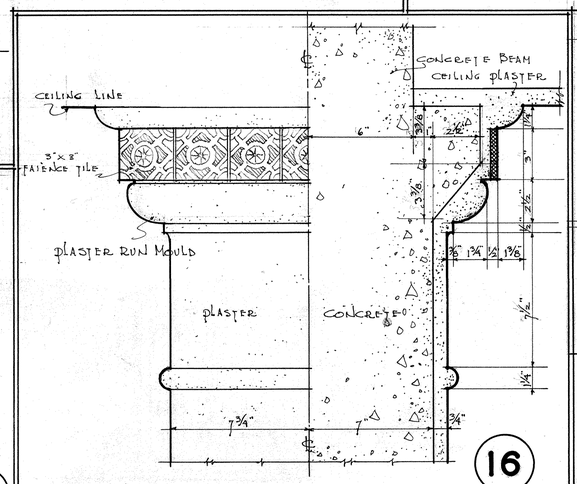
· DETAIL · OF · GARGOYLES · ON · TOWERS ·
SCALE - 1½" = 1'-0"



· SECTION THRU LEADER-BOX ·
· ON TOWERS & WHERE SHOWN ON ELEV. ·

· HALF · VIEW · FROM · ABOVE ·

15



· COLUMN · CAP IN DINING · ROOM ·
SCALE 3" = 1'-0"

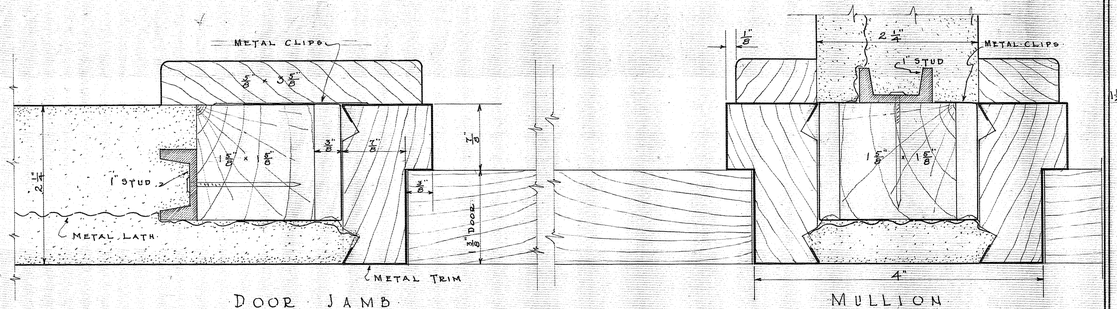
16

· EXTERIOR · DETAILS · 8 TO 17 ·

JOB NO. 2928	· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·	SHEET NO. A-8
DRAWN BY · L.L.E.	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	DATE 5-21-28 1928
TRACED BY · L.L.E.	Karl H. Muns COUNTY ARCHITECT	
CHECKED BY · H.C.S.	W. H. Holland SUPERINTENDENT IN CHARGE	SUPERVISOR IN CHARGE OF CONSTRUCTION

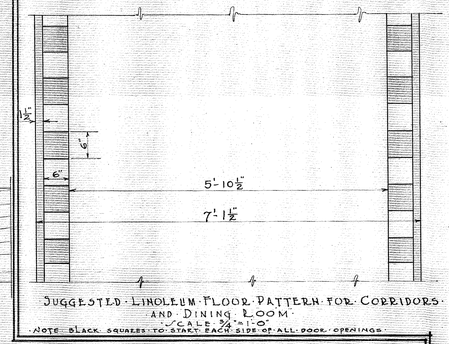
42

180.10

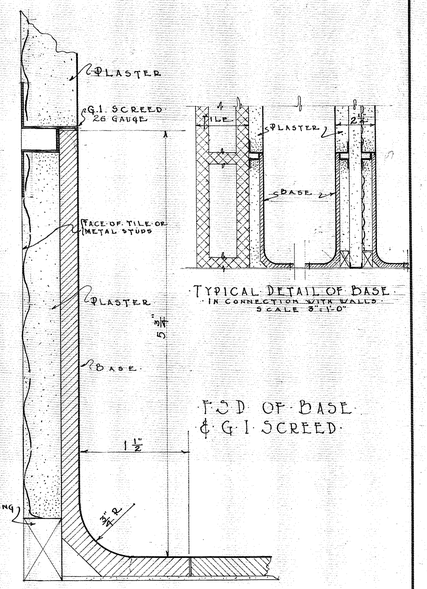


DOOR JAMB MULLION

F.S.D. BED ROOM CLOSET DOORS.

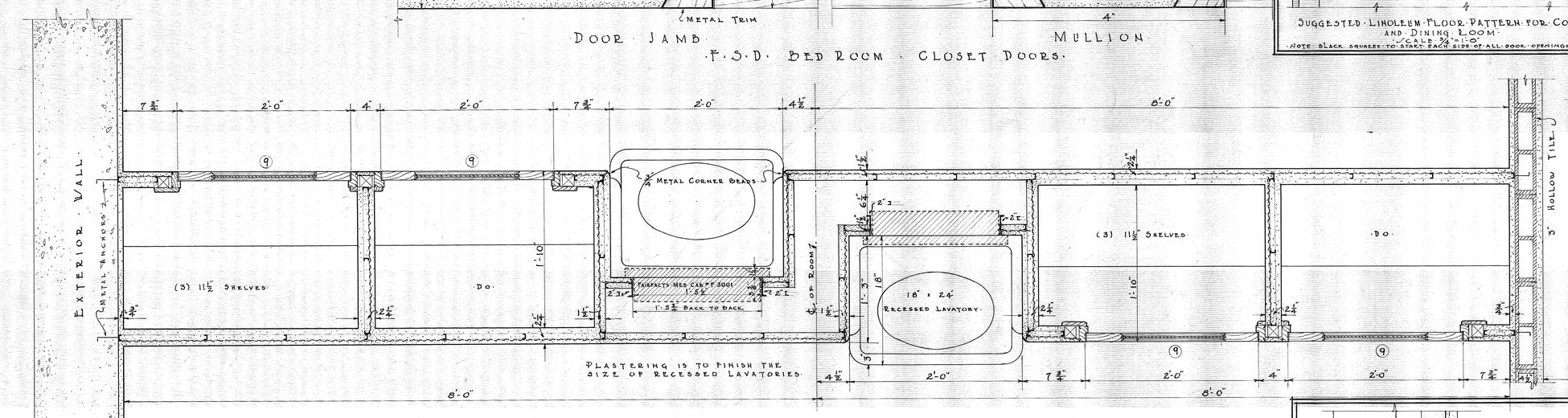


SUGGESTED LINOLEUM FLOOR PATTERN FOR CORRIDORS AND DINING ROOM.
SCALE ¾"=1'-0"
NOTE BLACK SQUARES TO START EACH SIDE OF ALL DOOR OPENINGS



TYPICAL DETAIL OF BASE IN CONNECTION WITH WALLS
SCALE 3"=1'-0"

F.S.D. OF BASE & G.I. SCREED

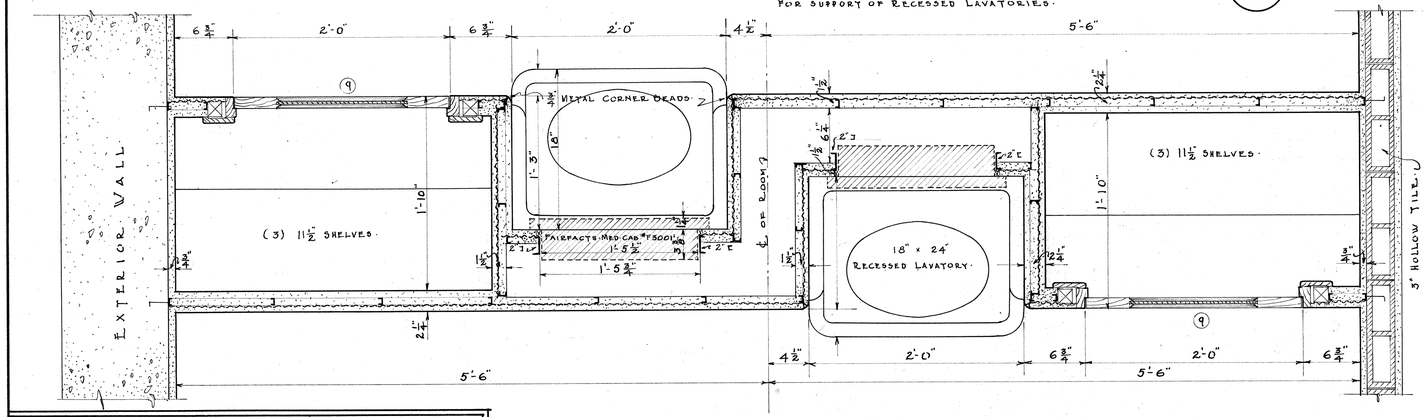


NOTE
ALL COMPOSITION BASE SHALL BE MADE WITH A RADIUS FOR ALL INTERNAL & EXTERNAL WALL ANGLES TO MATCH METAL CORNER BEADS & PLASTER.

DETAIL OF RECESSES & CLOSETS FOR 16'-0" ROOMS.
SCALE 1½"=1'-0"

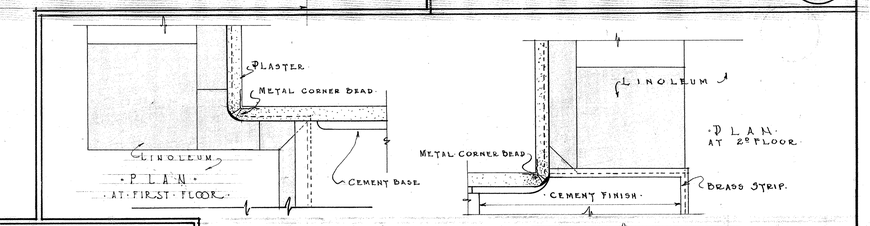
19

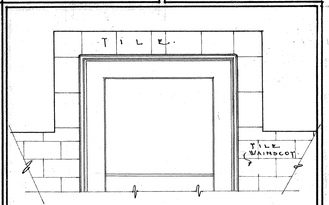
NOTE
SEE PLUMBING DRAWINGS & SPECIFICATIONS FOR SUPPORT OF RECESSED LAVATORIES.



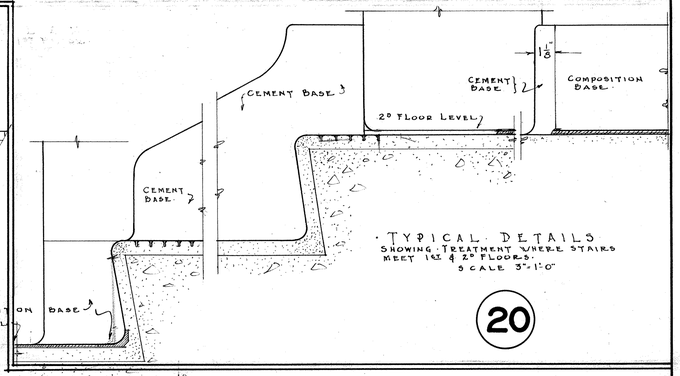
DETAIL OF RECESSES & CLOSETS FOR 11'-0" ROOMS.
SCALE 1½"=1'-0"

18



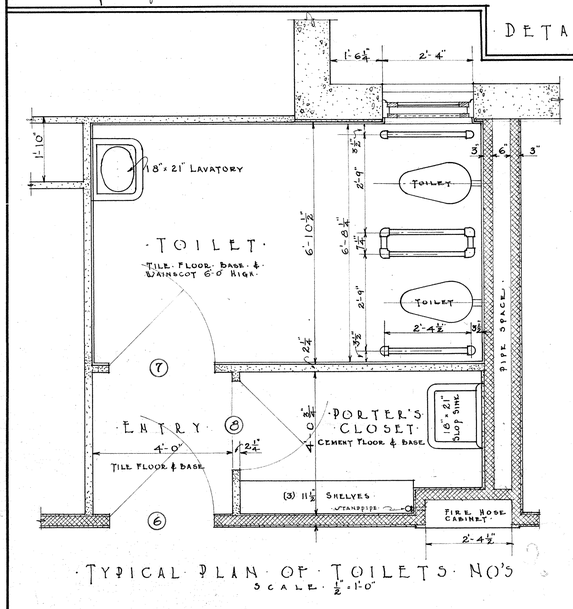


TYPICAL DETAIL OF TILE CASING AROUND DOOR & WINDOW OPENINGS WHERE TILE WAINSCOT OCCURS.
SCALE 1"=1'-0"



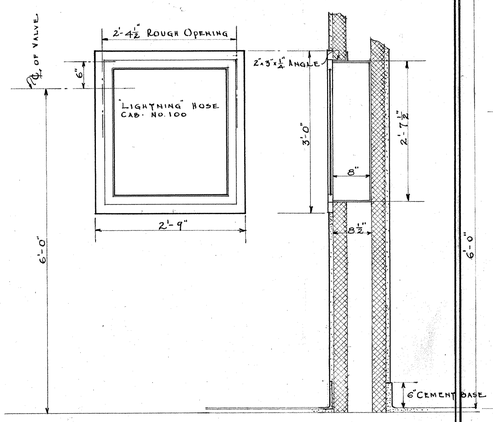
TYPICAL DETAILS SHOWING TREATMENT WHERE STAIRS MEET 1ST & 2ND FLOORS.
SCALE 3"=1'-0"

20



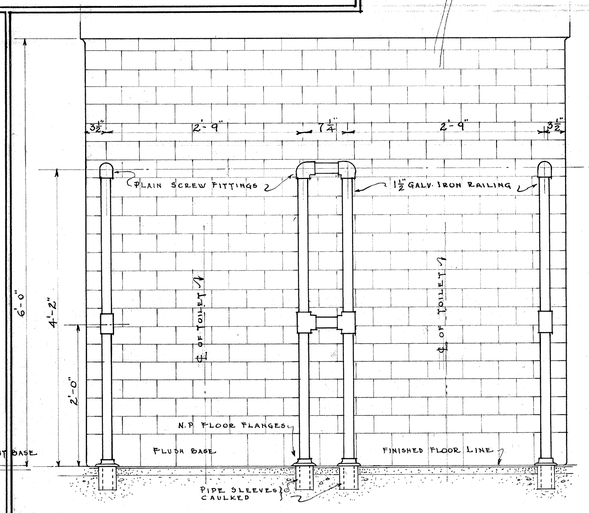
TYPICAL PLAN OF TOILETS NO'S
SCALE ½"=1'-0"

21

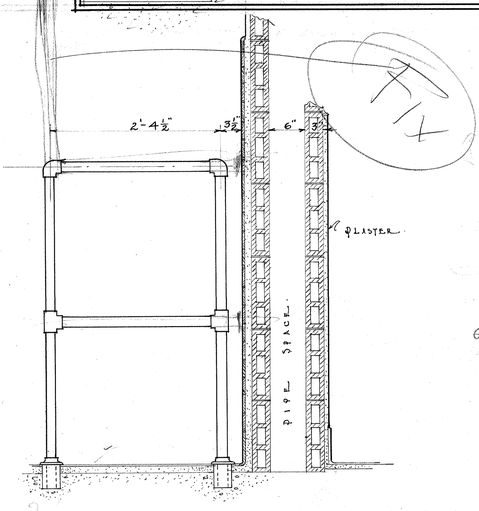


DETAILS OF FIRE HOSE CABINET
SCALE ¾"=1'-0"

22



DETAILS FOR TOILETS NO'S
SCALE 1"=1'-0"



23

INTERIOR DETAILS 18 TO 23.

JOB NO. 2928
DRAWN BY H.C.S. G.F.W. TRACED BY J.A.T. CHECKED BY H.C.S.

WOMENS WARD BUILDING AT LOS ANGELES COUNTY FARM

DEPARTMENT OF THE COUNTY ARCHITECT
COUNTY OF LOS ANGELES

Karl Kibbe
COUNTY ARCHITECT

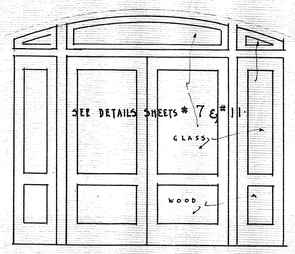
W. H. Holland
SUPERINTENDENT IN CHARGE

SUPERVISOR IN CHARGE OF CONSTRUCTION

SHEET NO. A-9
DATE 5-21-28
1928

43

130.10



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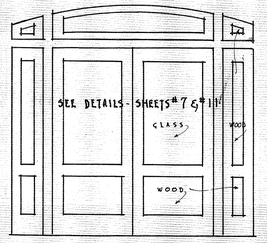

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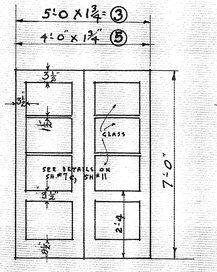

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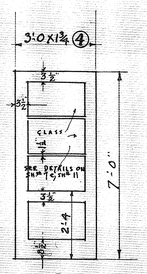

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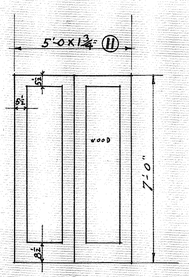

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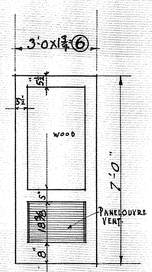

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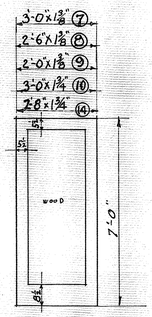
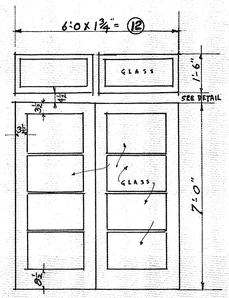


⑦ ⑧ ⑨ ⑩ ⑭



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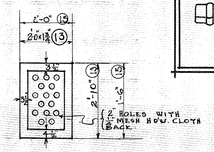
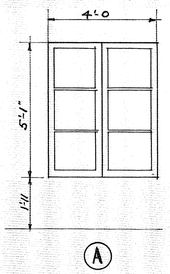


⑬

ACCESS DOORS IN FOUNDATION TO BE HINGED

DOOR SCHEDULE

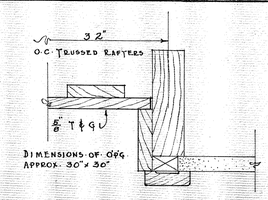
SCALE: ⅜ IN. TO 1'-0"



Ⓐ Ⓑ Ⓒ

WINDOW SCHEDULE

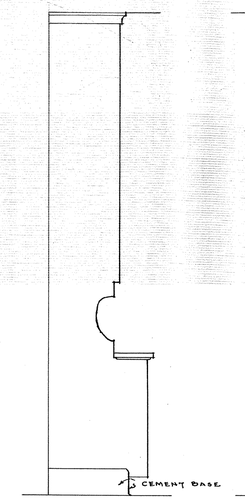
SCALE: ⅜ IN. TO 1'-0"



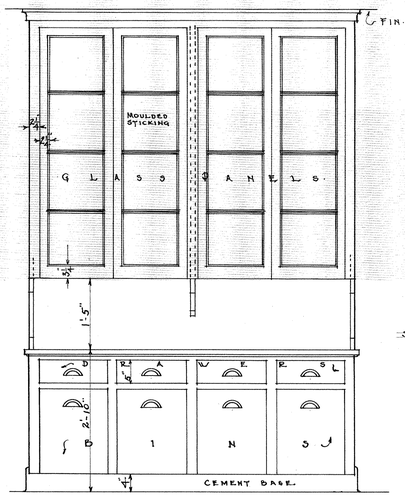
DETAIL OF SCUTTLES

SCALE 3"=1'-0"

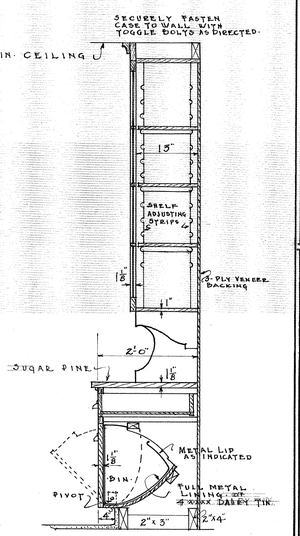
26



END ELEVATION



FRONT ELEVATION

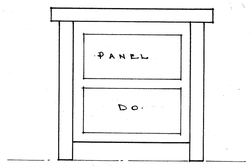


SECTION

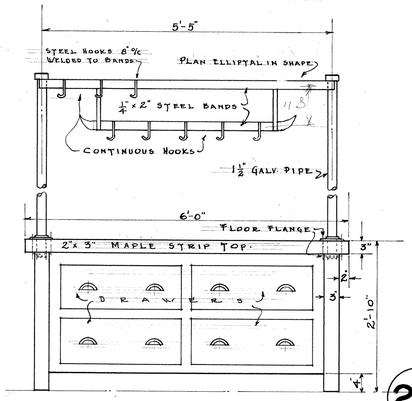
DETAILS OF KITCHEN CABINET

SCALE ¾"=1'-0"

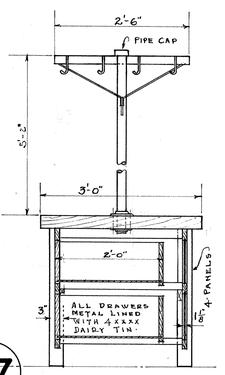
29



END ELEVATION



FRONT ELEVATION

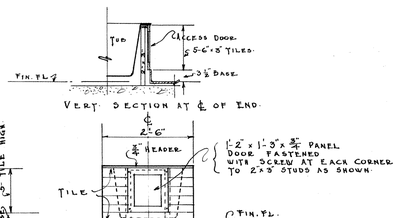


SECTION

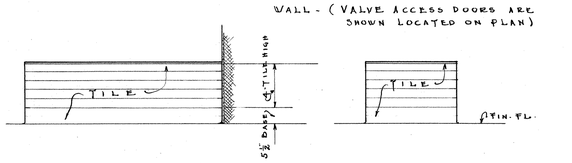
DETAIL OF WORK TABLE

SCALE ¾"=1'-0"

27



SIDE & END VIEW OF TUBS SETTING CLEAR OF WALL

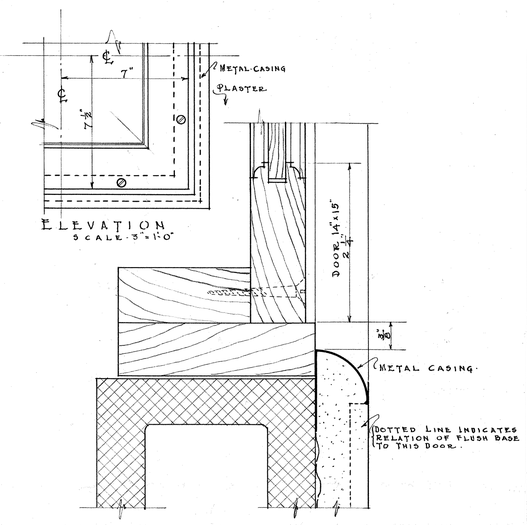


SIDE & END VIEW OF TUBS SET AGAINST WALL

NOTE. TUBS SET IN 2"x 3" WOOD FRAMES.

SCALE ½"=1'-0"

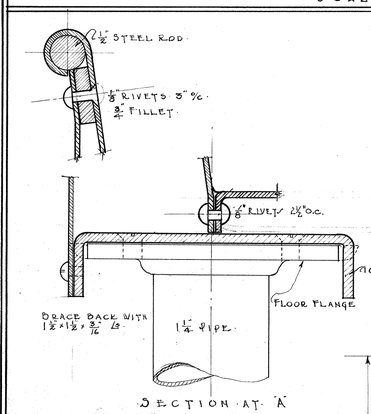
24



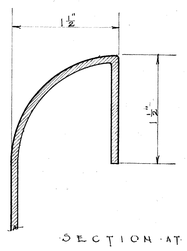
ELEVATION

SCALE 3"=1'-0"

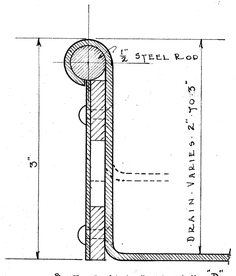
F.S. SECTION OF ACCESS DOOR TO BATH TUB PLUMBING



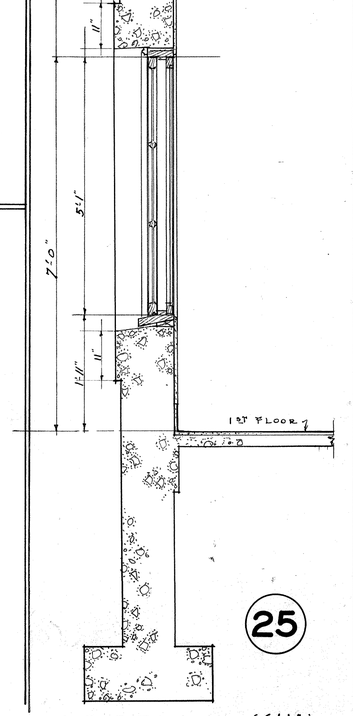
SECTION AT A



SECTION AT E



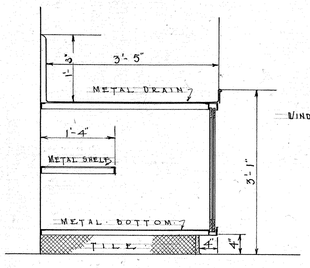
SECTION AT D



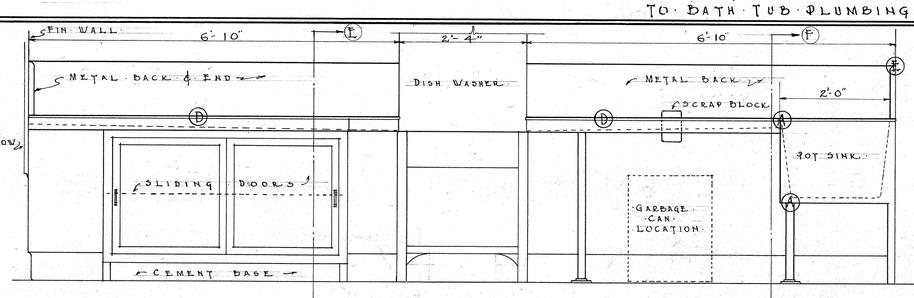
SECTION FRONT WALL OF TOWER

SCALE: ¾" TO 1'-0"

25



SECTION EE

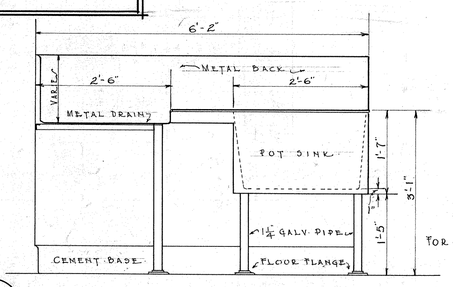


E ELEVATION F

DETAIL OF DISH TABLES & POT SINK

SCALE ¾"=1'-0"

28



SECTION FF

F.S.D. FOR POT SINK & METAL DRAIN

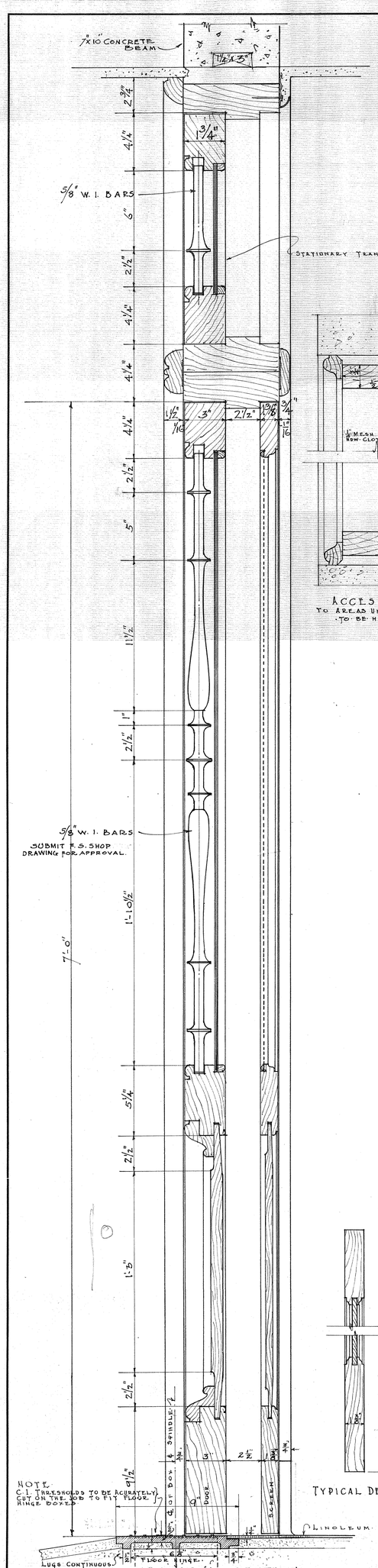
DOOR SCHEDULE & MISC. DETAILS 24 TO 29	
JOB NO. 2928	WOMENS WARD BUILDING AT LOS ANGELES COUNTY FARM
DRAWN BY P.P.K. J.A.T.	DEPARTMENT OF THE COUNTY ARCHITECT, COUNTY OF LOS ANGELES
TRACED BY P.P.K. J.A.T.	SHEET NO. A-10
CHECKED BY H.C.S.	DATE 5-21-28
	1928
	44

Kurt Meyer, COUNTY ARCHITECT

W. H. Holland, SUPERINTENDENT IN CHARGE

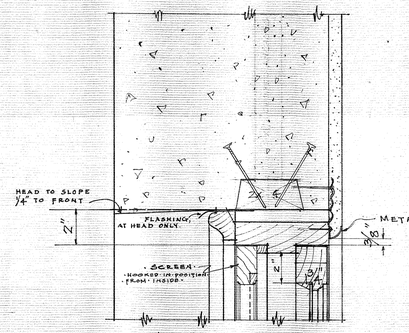
SUPERVISOR IN CHARGE OF CONSTRUCTION

130.10

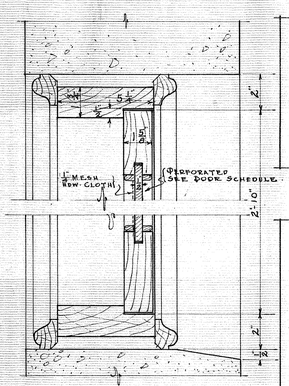


NOTE
C.I. THRESHOLDS TO BE ACCURATELY CUT ON THE JOB TO FIT FLOOR & HINGE BOXES.

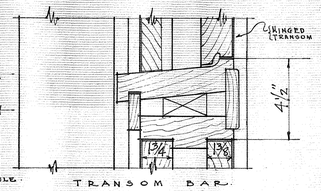
VERTICAL SECTION.



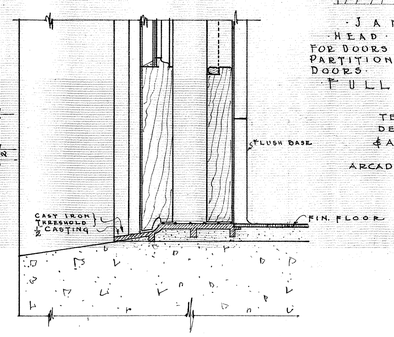
JAMB AND HEAD



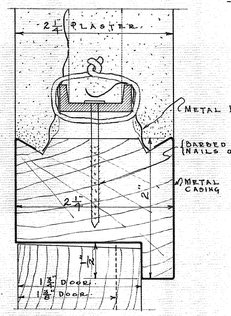
ACCESS DOORS
TO AREAS UNDER BUILDING
TO BE HINGED.



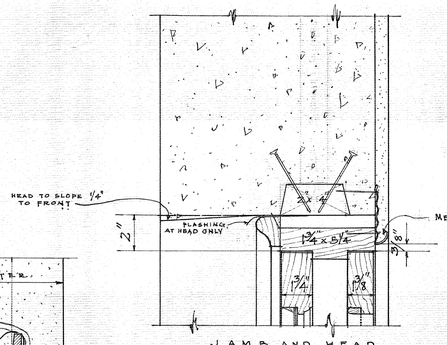
TRANSOM BAR.



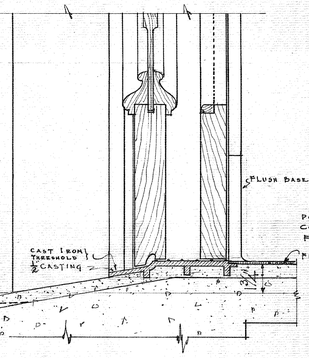
EXTERIOR FRENCH DOOR & TRANSOM IN DINING ROOM.



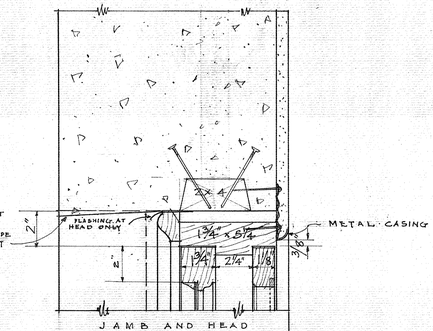
JAMB
HEAD SIMILAR
FOR DOORS IN 2½" PLASTER PARTITIONS EXCEPT CLOSET DOORS.
FULL SIZE



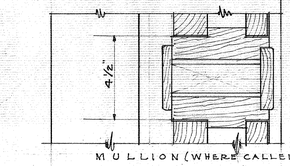
JAMB AND HEAD



EXTERIOR DOORS
EXCEPTING SOUTH & EAST ENTRANCE DOORS

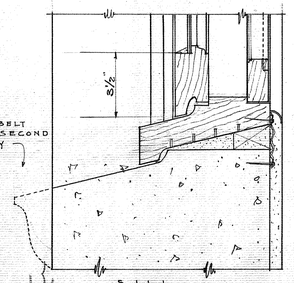


JAMB AND HEAD

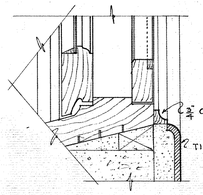


MULLION (WHERE CALLED FOR)

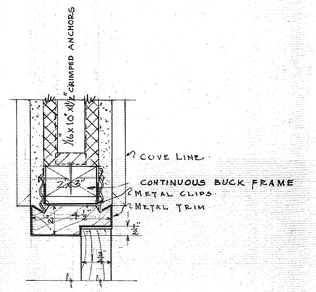
POSITION OF BELT COURSE, AT SECOND FLOOR ONLY



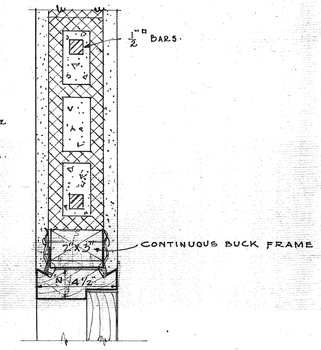
SILL
TYPICAL WINDOWS



SILL
WHERE TILE WAINSCOTING OCCURS
TILE RETURNS AT JAMBS & HEAD SIMILAR.



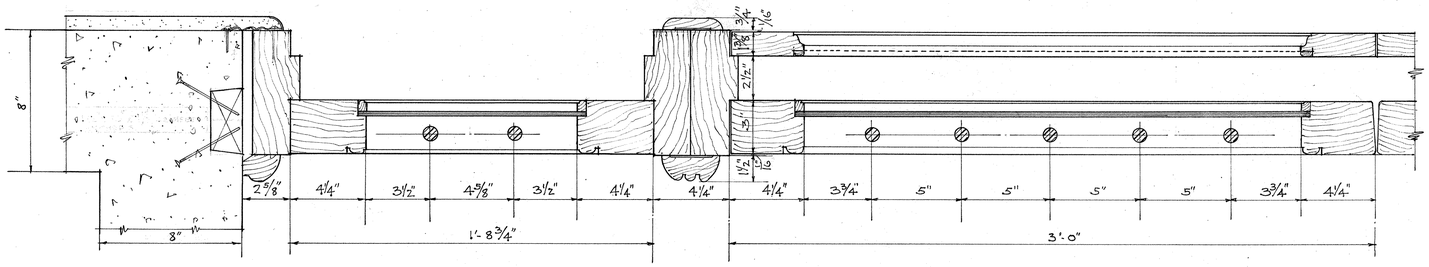
JAMB



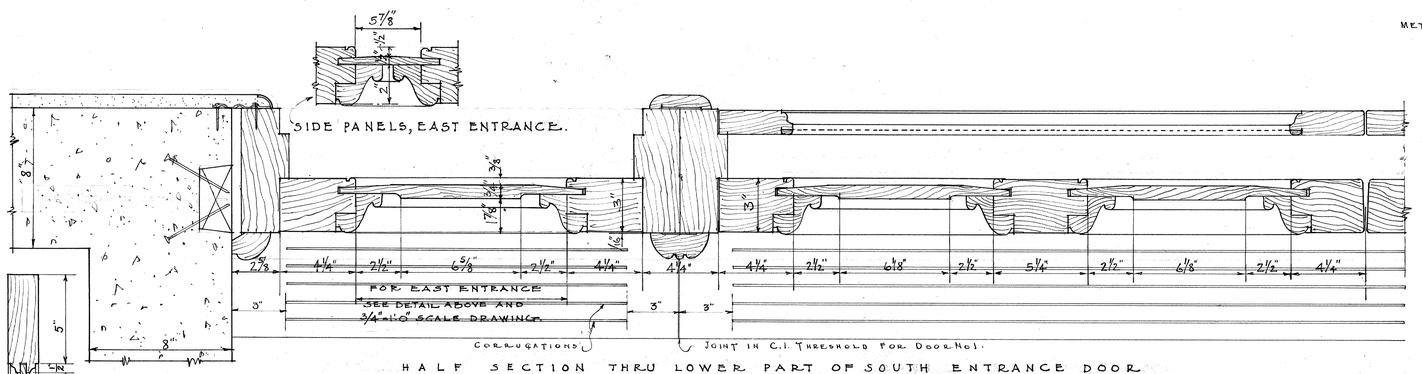
HEAD

JAMB & HEAD FOR ALL DOORS IN 3" HOLLOW TILE PARTITIONS.

NOTE: ALL EXTERIOR CASEMENT & FRENCH DOOR SASH TO BE 1¾" THICK.

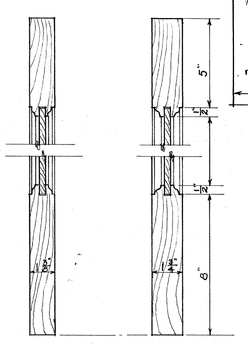


HALF SECTION THRU UPPER PART OF SOUTH ENTRANCE DOOR.



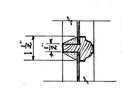
HALF SECTION THRU LOWER PART OF SOUTH ENTRANCE DOOR
(EAST ENTRANCE DOOR SIMILAR)
EXCEPT C.I. THRESHOLD IN ONE PIECE FOR DOOR NO. 2.

SCALE = 3 IN. = 1 FT.

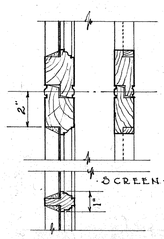


TYPICAL DETAIL OF INTERIOR DOORS.

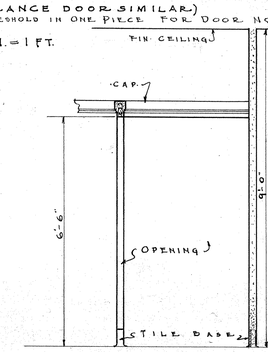
MIDDLE RAIL
WHERE LOUVRES OCCUR BELOW
DOOR NO. 6.



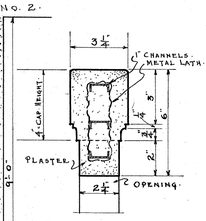
TYPICAL DOOR MUNTIN.



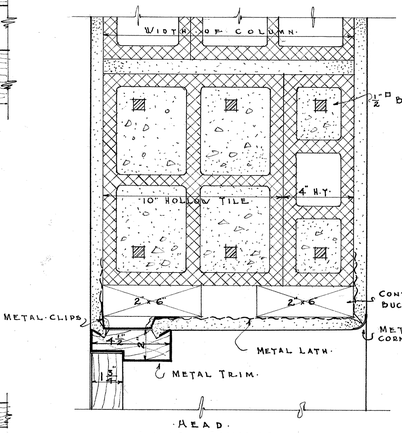
TYPICAL MEETING STILES & MUNTIN FOR WINDOWS.



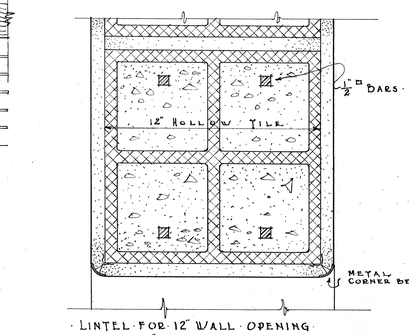
DETAIL OF BATH PARTITIONS.
NOTE: PARTITIONS IN BATH ROOMS ARE FULL HEIGHT, EXCEPT AS NOTED BELOW—BETWEEN ROOMS NOS. 167-188, 170-171, 187-208, 269-270.
SCALE ½" = 1'-0"



DETAIL OF CAP.
SCALE 3"=1'-0"



HEAD
JAMB SIMILAR
FOR DOORS FROM DINING ROOM TO CORRIDOR.



LINTEL FOR 12" WALL OPENING
LINTEL FOR 14" WALL OPENING SIMILAR EXCEPT TILE & REINFORCING SAME AS HEAD DETAIL ABOVE.

· DOOR · AND · WINDOW · DETAILS ·

JOB NO. 2928

· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·

· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES

SHEET NO. A-11

DRAWN BY · G.A.H. · C.F.W.
TRACED BY · G.A.H.
CHECKED BY · H.C.S.

DATE 5-21-28 1928

COUNTY ARCHITECT

SUPERINTENDENT IN CHARGE

SUPERVISOR IN CHARGE OF CONSTRUCTION

130.10

FOUNDATION PLAN

1/8" = 1'-0"

Present tunnel

See sheet 52 for sections JJ to VV incl.

Areaway

Areaway

See Sect TT

208'-3"

77'-1⅛" | 54'-0" | 77'-1⅛"

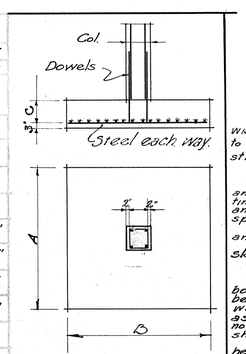
14'-10¾" | 15'-5¾" | 15'-4¾" | 15'-4¾" | 15'-11½" | 14'-10⅛" 7'-7" 2'-5" 7'-7" 2'-5" 7'-7" 2'-5" 7'-7" 18⅛" | 15'-11½" | 15'-4¾" | 15'-4¾" | 15'-5¾" | 14'-10¾"

Elevations to bottom of footings given in feet and inches and shown thus 89'-6"

Maximum soil pressure = 2000# gross.

FOOTING SCHEDULE

FTG MK	COL LOAD	FOOTING SIZE A	B	C	STEEL EA WAY No	Size	Length
1-2-7-8 9-19-25-29 15-24-35-40	116,400	8'-0"	8'-0"	15"	16	⅝"a	7'-8"
3	123,000	8'-4"	8'-4"	15"	18	½"a	8'-0"
4	111,000	7'-8"	7'-8"	15"	17	½"a	7'-4"
5	77400	6'-8	6'-8	12"	11	½"a	6'-4"
6-34-41	93600	7'-3"	7'-3"	15"	13	½"a	7'-0"
10-20	163,000	9'-8"	9'-8"	19"	23	½"a	9'-4"
11	119,300	8'-2"	8'-2"	15	16	½"a	7'-10"
12-21-37-38	143,200	9'-0"	9'-0"	17	21	½"a	8'-8"
13-18-31	43300 col 35000 Wall	6'-8"	6'-8"	12"	11	½"a	6'-4"
14-27-32	106,500	7'-8"	7'-8"	15"	16	½"a	7'-4"
16-17	38500 Col 34000 Wall	6'-6"	6'-6"	12"	11	½"a	6'-2"
22-36-39	130,000	8'-6"	8'-6"	17	18	½"a	8'-2"
23	76500 Col 36500 Slack	7'-0	9'-0	15"	14	½"a	6'-8"
					14	½"a	8'-8"
26	90,300	6'-3"	6'-3"	12	10	½"a	6'0"
28-33	50900 Col 46000 Wall	7'-2"	7'-2"	12"	15	½"a	6'-10
30	54900 Col 42000 Wall	7'-6"	7'-6"	12	16	½"a	7'-2"
42	62500	6'-0"	6'-0"	12	12	½"a	5'-8
43-44	56500	5'-8"	5'-8"	12"	10	½"a	5'-4"



GENERAL NOTES.

Elevations are taken from U.S.G.S. datum; Deduct 5715' for city datum.

All reinforcing steel to be square deformed bars unless otherwise noted. fs = 16000# per sq. inch. Dimensions to all bars are to the center of the bar unless otherwise noted. Spacing of stirrups is from side of supporting beam or column.

SLAB STEEL

Bend up every other bar in continuous spans at 1/8 pt of span and lap bars 1'6" at adjacent span. Where Bent Steel is continuous over support place loose bars over support so that amount of steel over support is the same as in center of span. Hook ends of bent bars at end support.

Bend every third bar in simple spans at 1/8 pt of span and hook ends.

Distance from main reinforcing steel to bottom of slab to be ¾" unless otherwise noted.

TYPICAL WALL STEEL

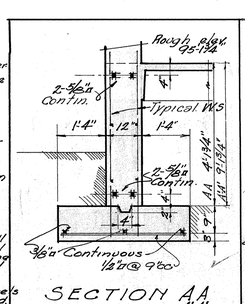
Typical wall steel shall be ⅝"a deformed bars at 18" cc both ways both sides. All splices in typical wall steel shall be a lap of 15". Where dowels are needed in typical wall steel they shall be 30 inches long and spaced same as wall steel. All bars at floor lines and window head noted as continuous shall be spliced at col. This splice shall be a lap of all reinforcing bars.

In general all concrete walls, including spandrels beams shall be reinforced with ⅜"a bars, deformed, at 18" cc. both ways, both faces unless otherwise noted.

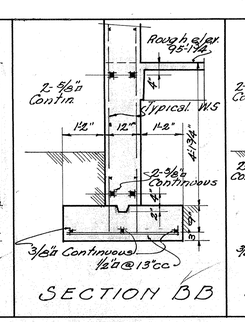
Detailed dimensions of all reinforcing steel to be checked by contractor.

All concrete to be grade #1 proportioned 1-2½-3½ with a maximum flexure stress of 650# per sq. inch positive and 750# per sq. inch negative over support.

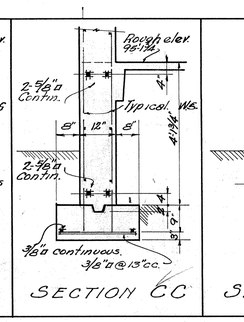
Contractor shall check finish elevations and finish thicknesses with Architectural plans.



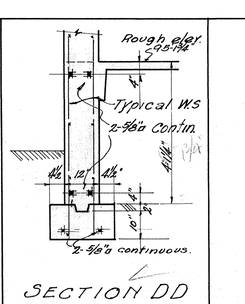
SECTION AA
"
A'A'



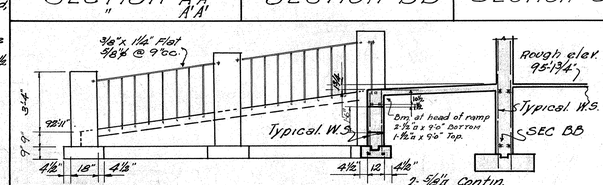
SECTION BB



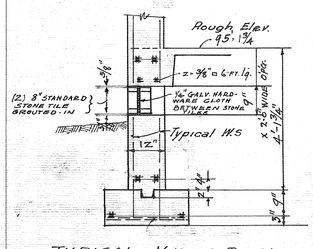
SECTION CC



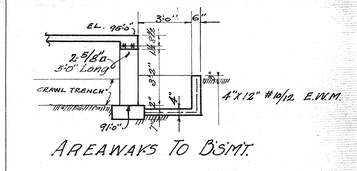
SECTION DD



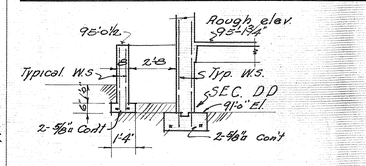
SECTION EE
SECTION FF SIMILAR
1/4" = 1'-0"



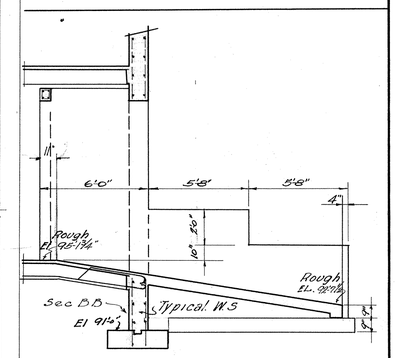
TYPICAL VENT DETAIL.
1/2" = 1'-0"



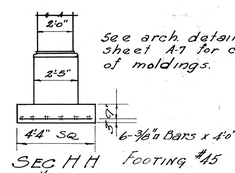
AREAWAYS TO B'SMT.



SECTION YY
1/4" = 1'0"

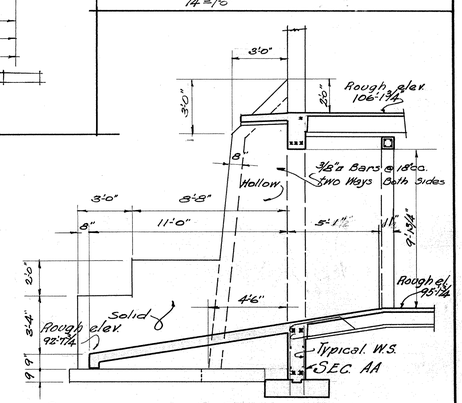


SECTION XX
1/4" = 1'0"



See arch. detail 7 sheet A-7 for contour of moldings.

SEC H H FOOTING #15
1/4" = 1'-0"



SECTION GG
1/4" = 1'-0"

· FOUNDATION · PLAN · & · DETAILS ·

JOB NO. 2928

· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·

SHEET NO. S-1

DRAWN BY · W.A.B ·
TRACED BY · W.A.B ·
CHECKED BY · A.S ·

· DEPARTMENT · OF · THE · COUNTY · ARCHITECT ·
COUNTY OF LOS ANGELES
Karl Meyer
COUNTY ARCHITECT

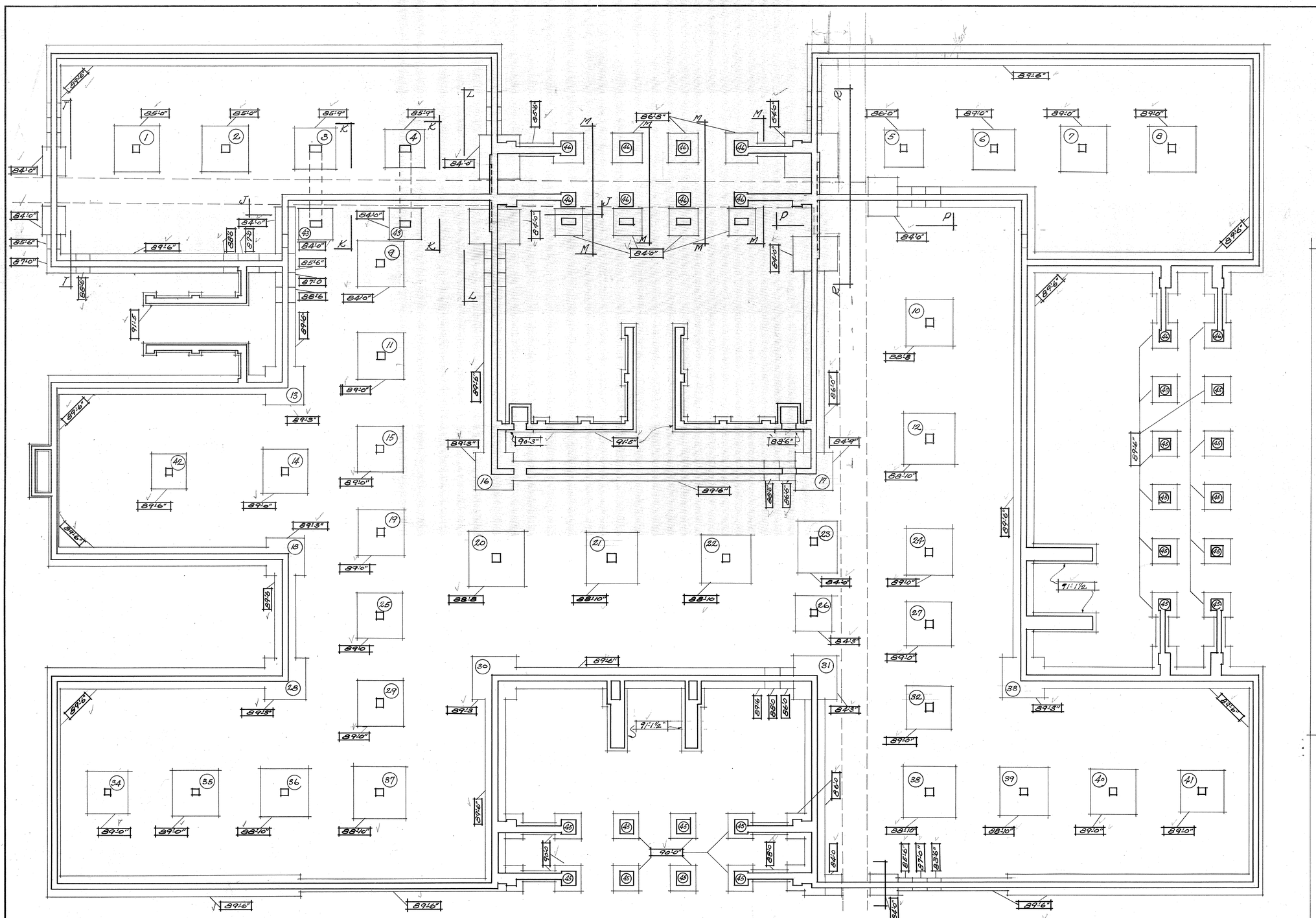
DATE 5-21-28 1928

H. H. Holland
SUPERINTENDENT IN CHARGE

SUPERVISOR IN CHARGE OF CONSTRUCTION

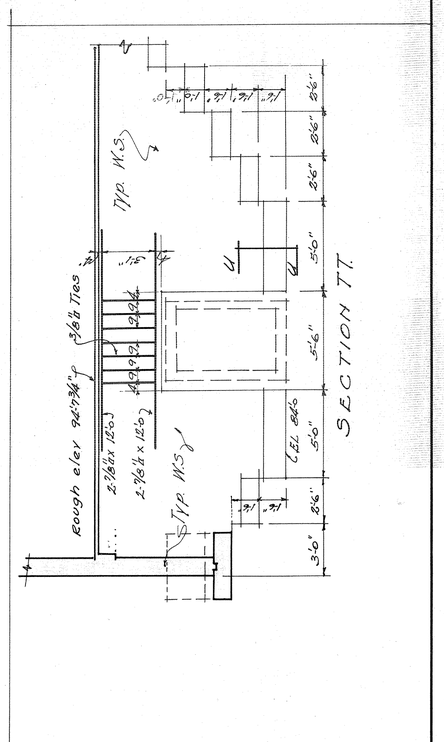
CASA CONSUELO RLA 130.10

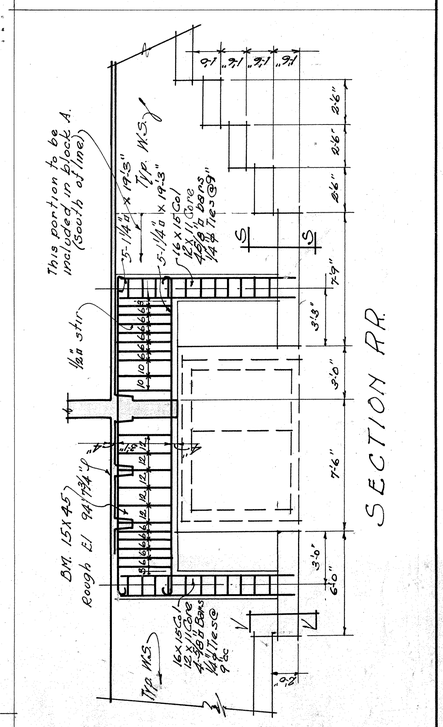
47

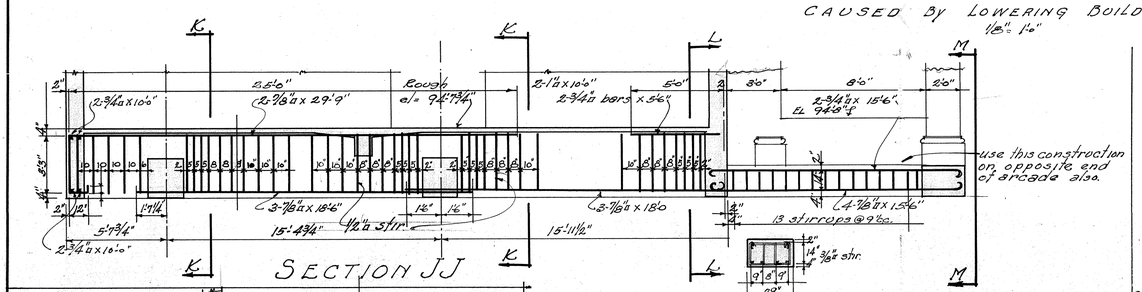


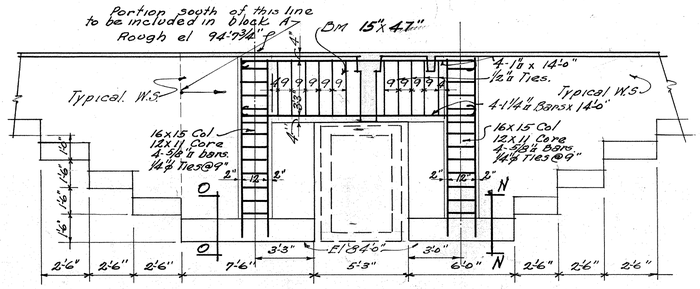
FOUNDATION PLAN SHOWING REVISED FTG ELEVATIONS
CAUSED BY LOWERING BUILDING 6" (SIX) INCHES.
1/8" = 1'-0"

Elevations to bottom of footings given in feet and inches and shown thus.
Maximum soil pressure = 2000 #□'

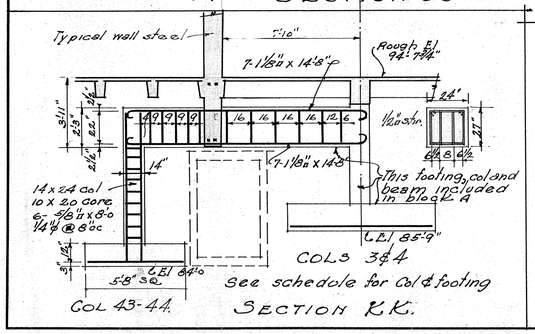




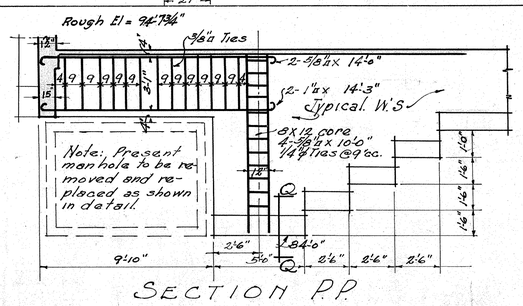




SECTION LL.
1/4" = 1'-0"



SECTION KK.



SECTION PP.

Elevations of bottoms of ftgs. shown on this sheet supercede elevations given on sheet S1
Details shown on this sheet supercede similar details shown on sheet S1.
All details on sheet S1 remain as shown except for elevations of floors and bottoms of ftgs.
Details MM, NN, OO, QQ, SS, UU, VV, remain as shown sheet S2.
Details at scale 1/4" = 1'-0".

· REVISED · FOUNDATION · PLAN · & · DETAILS ·		
JOB NO. 2928	· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·	SHEET NO. RS-1
DRAWN BY · W·A·B · TRACED BY · W·A·B · CHECKED BY	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	DATE
	COUNTY ARCHITECT	
	SUPERINTENDENT IN CHARGE	SUPERVISOR IN CHARGE OF CONSTRUCTION

RLA 130.10

SECTION AA

SECTION BB

STAIR No 2

Stair No 3 Similar.

SECTION CC

SECTION DD

SECTION EE

STAIR No 1

STAIR No 4 SIMILAR

SECTION FF

TYPICAL TREAD DETAIL

3" 1'-0"

TYICAL DETAIL OF RAMP FINISH

DETAIL of FRONT ARCADE (SOUTH)

NORTH AND EAST ARCADES SIMILAR

SECTION JJ

SECTION KK

Col 43-44

Col 3-4

SECTION MM

SECTION LL

1/4"=1'-0"

SECTION OO"

SECTION NN

SECTION PP

SEC QQ

SEC UU

SECTION TT

SECTION RR

SECTION VV

SECTION SS

REVISE TUNNEL DETAIL.

⚠ See sheet S1a for revised details.

see sheet S1 for general notes.

FOUNDATION. STAIR & ARCADE DETAILS.

JOB NO. 2928

WOMENS WARD BUILDING AT LOS ANGELES COUNTY FARM

DEPARTMENT OF THE COUNTY ARCHITECT

COUNTY OF LOS ANGELES

SHEET NO. S-2

DATE 5-21-28 1928

DRAWN BY W.A.B.

TRACED BY W.A.B.

CHECKED BY J.A.S. A.S.

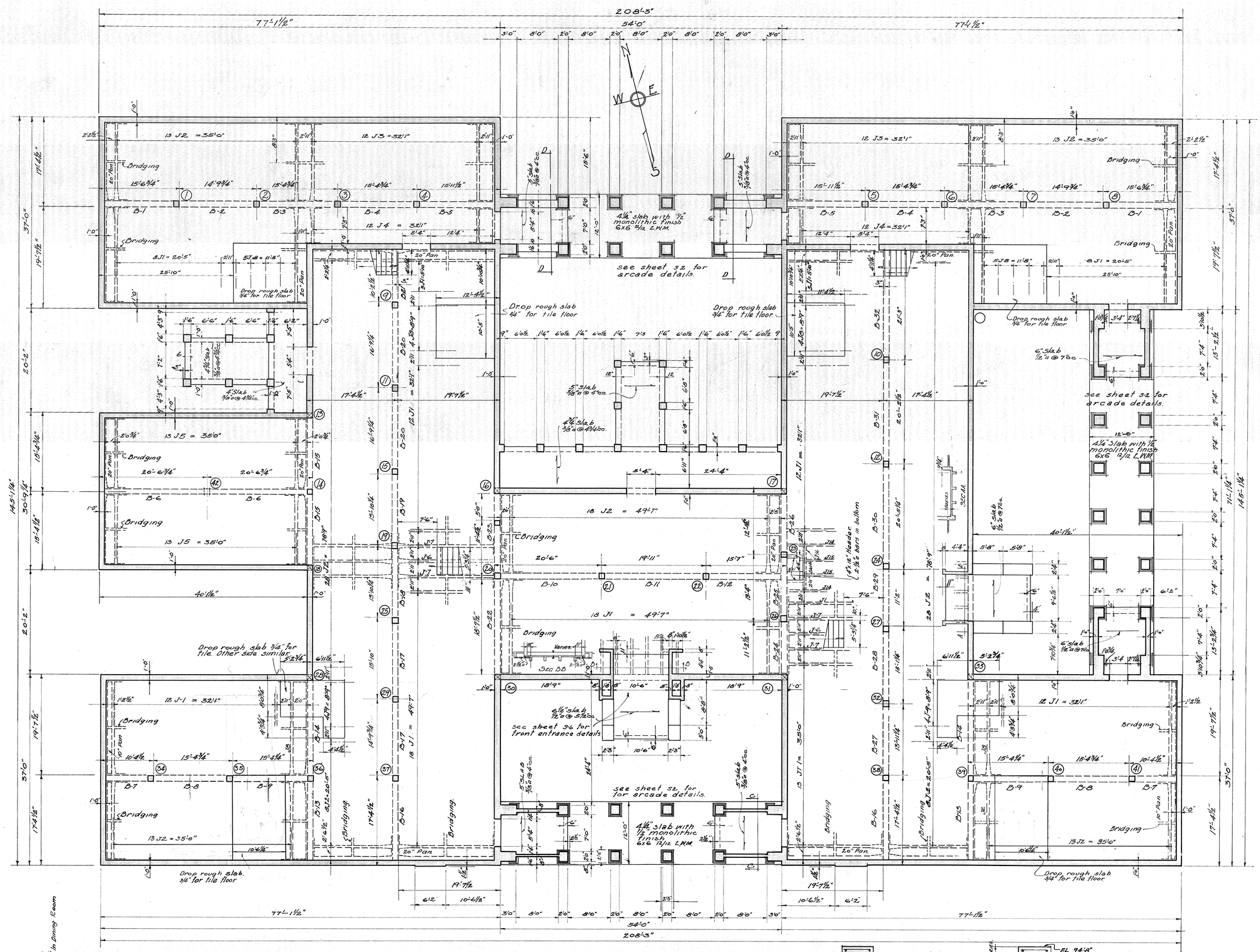
COUNTY ARCHITECT

SUPERINTENDENT IN CHARGE

SUPERVISOR IN CHARGE OF CONSTRUCTION

48

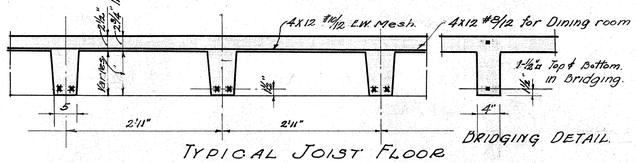
RL & 130.10



FIRST FLOOR FRAMING PLAN.

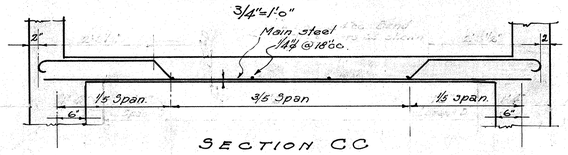
1/8" = 1'-0"

LL = 125# for Dining room & Porches.
" = 75# " Corridors.
" = 50# Bed Rooms.
FINISH FLOOR ELEVATION 95'-2½"

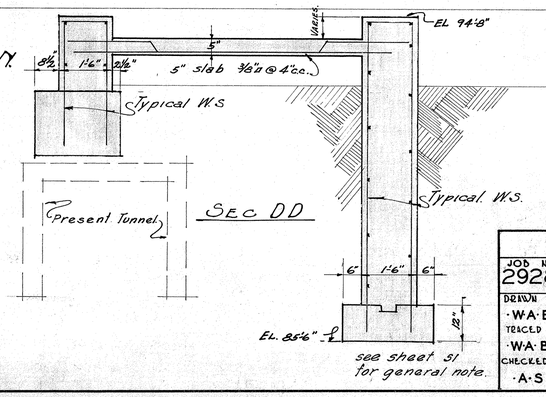


TYPICAL JOIST FLOOR
3/4" = 1'-0"

BRIDGING DETAIL.



SECTION CC
DETAIL TYPICAL SLAB
3/4" = 1'-0"



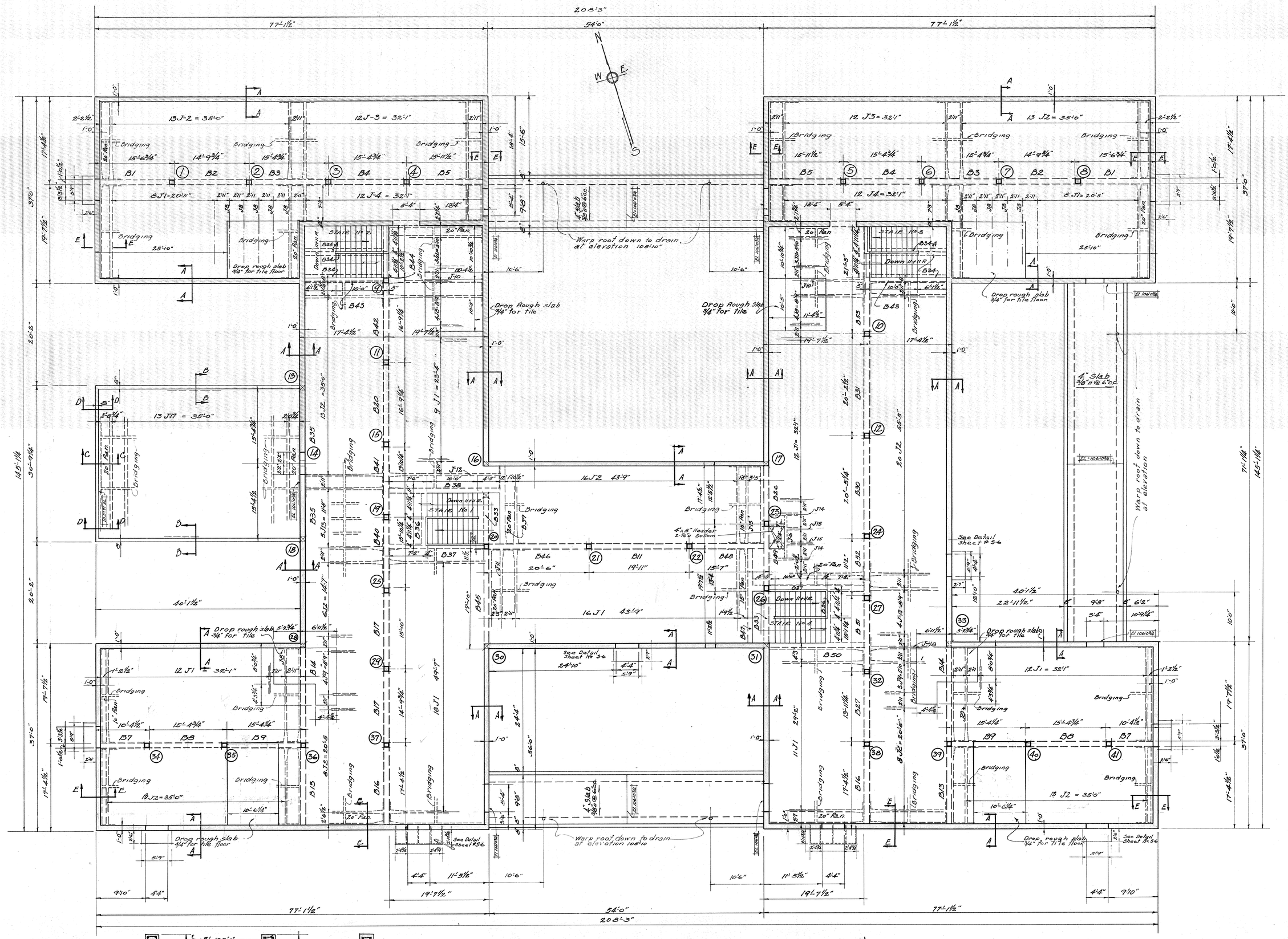
SEC DD

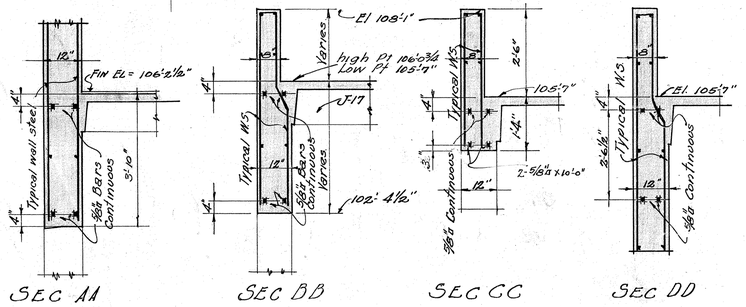
see sheet S1 for general note.

JOB NO. 2928	FIRST FLOOR FRAMING PLAN WOMENS WARD BUILDING AT LOS ANGELES COUNTY FARM	SHEET NO. S-3
DRAWN BY W.A.B.	DEPARTMENT OF THE COUNTY ARCHITECT COUNTY OF LOS ANGELES	DATE 5-21-28
TRACED BY W.A.B.	Karl Wolmuth COUNTY ARCHITECT	1928
CHECKED BY A.S.	W. H. Holland SUPERINTENDENT IN CHARGE — SUPERVISOR IN CHARGE OF CONSTRUCTION	

49

P.L.L. 130.10



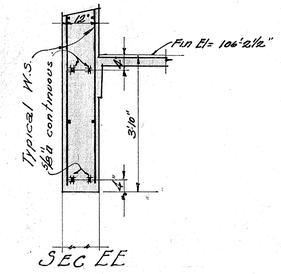


SEC AA SEC BB SEC CC SEC DD

SECOND FLOOR FRAMING PLAN

1/8" = 1'-0"

Elevations of finish of high and low points of roofs indicated thus
Finish floor elevation 106'-2½" Finish ¾" unless otherwise noted
75# Live Load corridors.
50# " " Bed rooms.



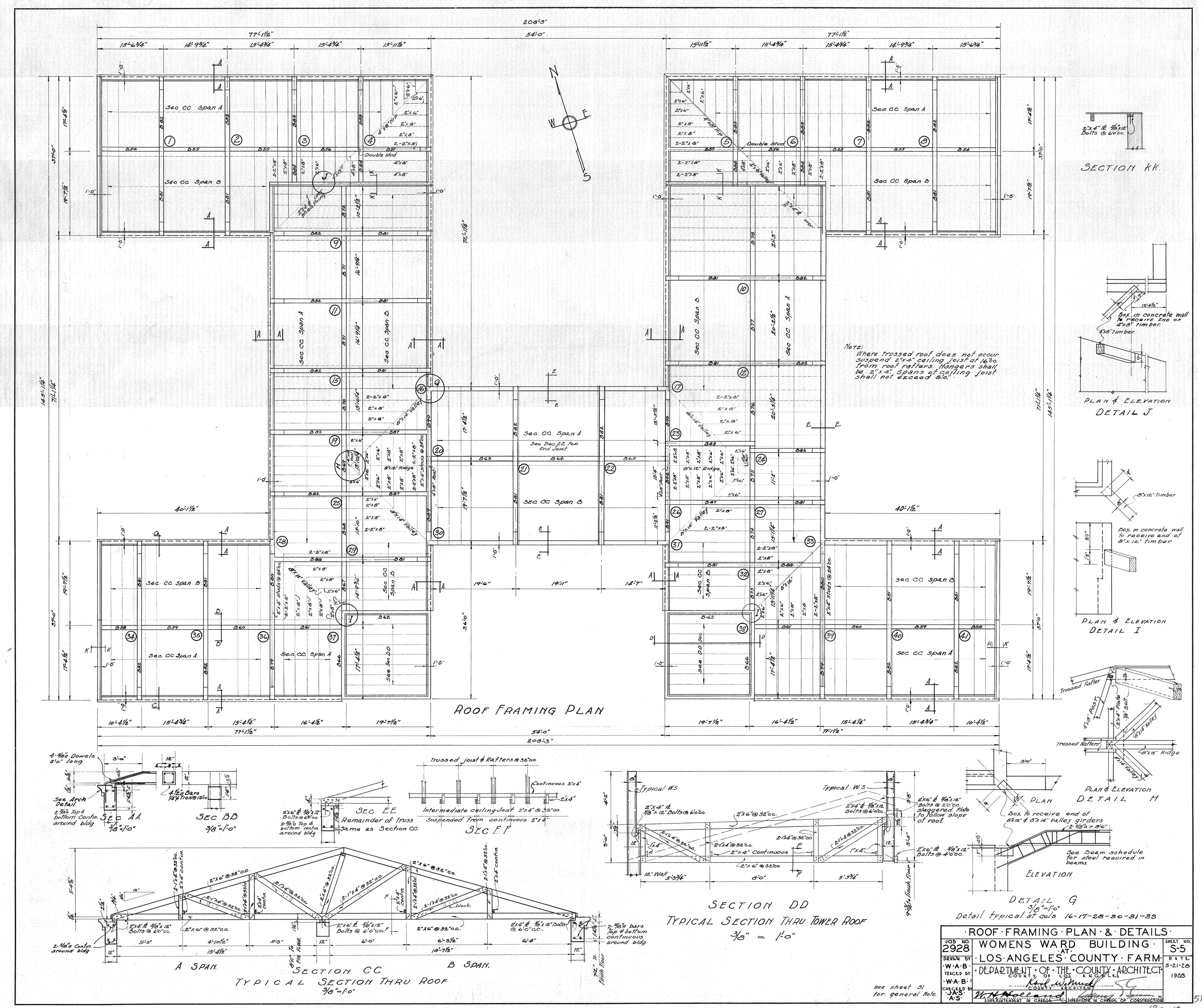
SEC EE

see sheet S1 for general note.

JOB NO. 2928	· SECOND · FLOOR · FRAMING · PLAN · WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM · DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	SHEET NO. S-4
DRAWN BY · W·A·B · TRACED BY · W·A·B · CHECKED BY · J·A·S · A·S ·	Kent W. Mudge COUNTY ARCHITECT	DATE 5-21-28 1928
	W H Holland SUPERINTENDENT IN CHARGE — SUPERVISOR IN CHARGE OF CONSTRUCTION	

50

RCK 130.10

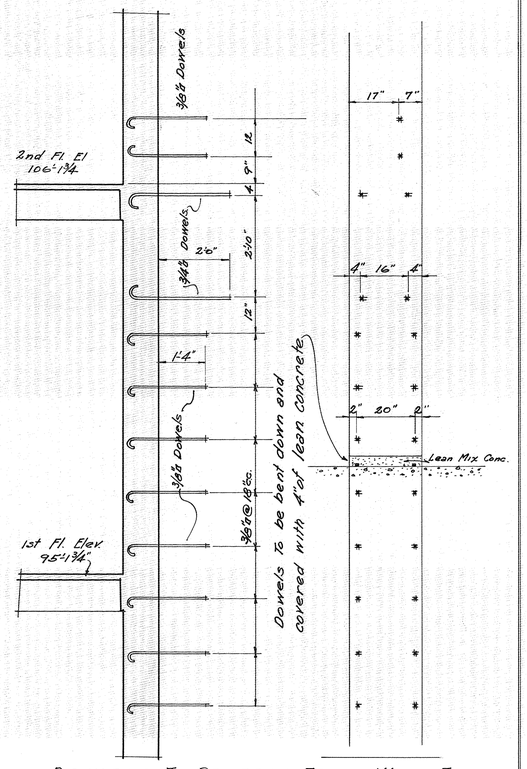


see sheet 51 for general Note.

JOB NO. 2928	ROOF FRAMING PLAN & DETAILS WOMENS WARD BUILDING AT LOS ANGELES COUNTY FARM	SHEET NO. S-5
DRAWN BY W.A.B. TRACED BY W.A.B. CHECKED BY J.A.S. A.S.	DEPARTMENT OF THE COUNTY ARCHITECT COUNTY OF LOS ANGELES COUNTY ARCHITECT SUPERINTENDENT IN CHARGE — SUPERVISOR IN CHARGE OF CONSTRUCTION	DATE 5-21-28 1928

51

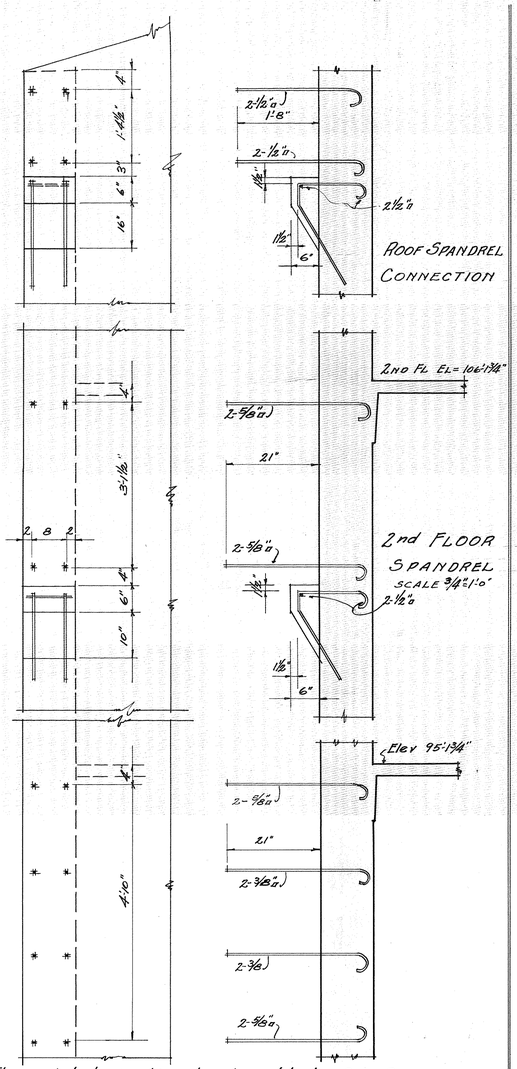
130.10



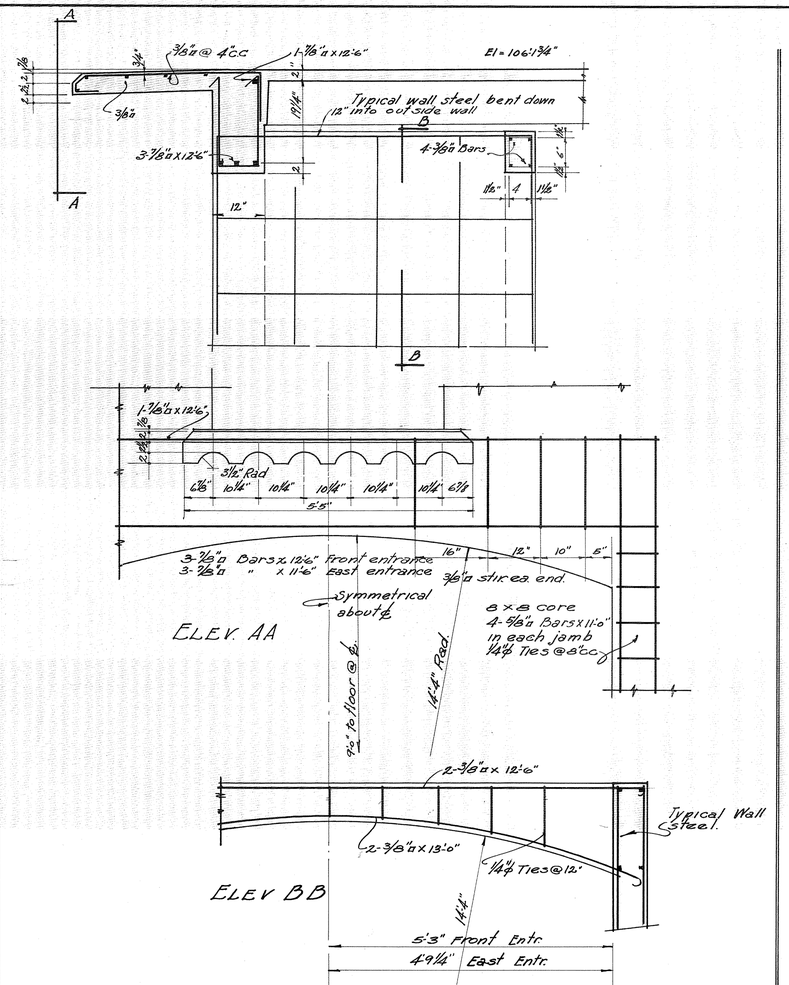
DOWELS TO PROJECT FROM WALL TO PROVIDE FOR FUTURE ARCADE

SCALE ½" = 1'-0"

This detail applies only when blocks B, C, D or E are omitted from present contract



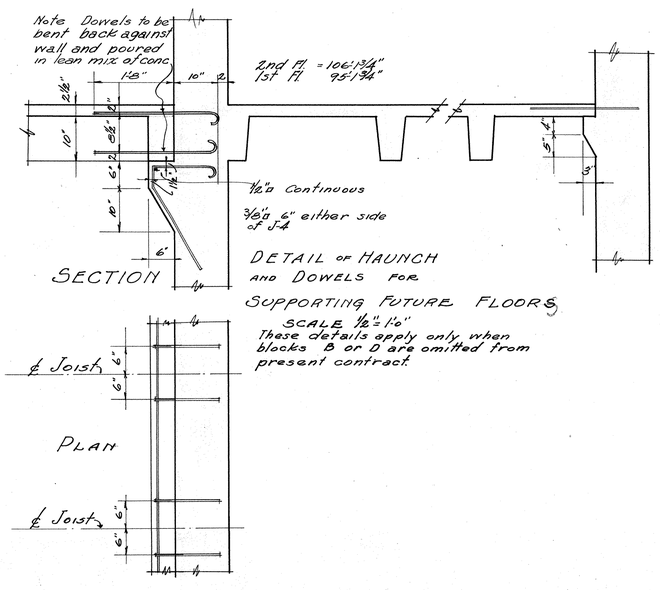
These details apply only when blocks B or D are omitted from present contract.



DETAILS OF BEAMS AND CANTILEVER SLAB OVER FRONT ENTRANCE

SCALE ¾" = 1'-0"

See arch. detail 5 sheet #A7

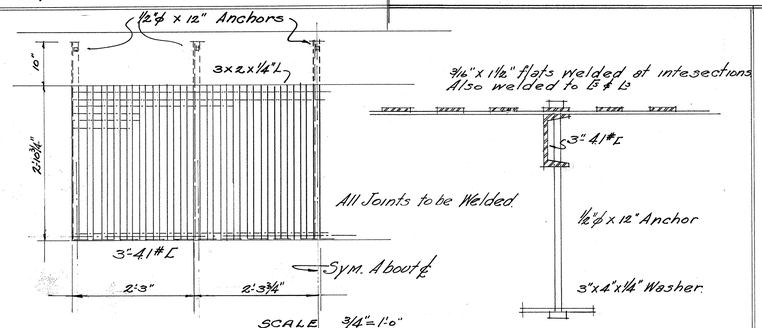


SECTION

DETAIL OF HAUNCH AND DOWELS FOR SUPPORTING FUTURE FLOORS

SCALE ½" = 1'-0"

These details apply only when blocks B or D are omitted from present contract.

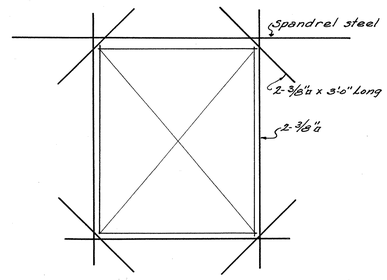


SCALE ¾" = 1'-0"

TOWER BALCONY @ 2ND FLOOR.

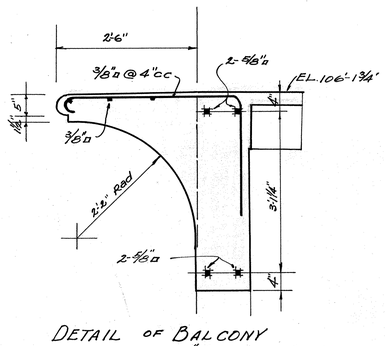
2 REQUIRED.

See arch detail #1 sheet # A7



TYPICAL DETAIL OF STEEL AROUND WINDOWS.

½" = 1'-0"



DETAIL OF BALCONY

See arch. detail #4 sheet #A7

¾" = 1'-0"

See sheet S1 for General note.

· MISCELLANEOUS · DETAILS ·

JOB NO. 2928	· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·	SHEET NO. S-6
DRAWN BY · W.A.B · TRACED BY · W.A.B · CHECKED BY · A.S ·	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	DATE 5-21-28 1928
	Karl W. Smith COUNTY ARCHITECT	
	W. H. Holland SUPERINTENDENT IN CHARGE	SUPERVISOR IN CHARGE OF CONSTRUCTION

52

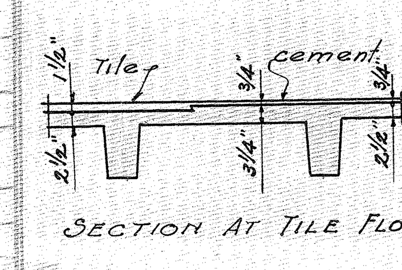
RLA 130.10

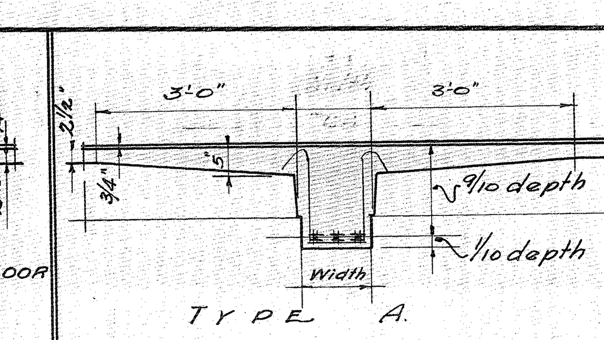
BEAM & JOIST SCHEDULE

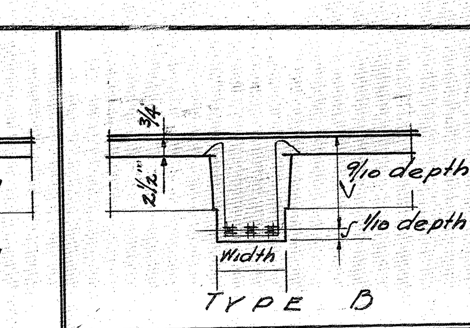
Beam or Joist Mk	WL 10 or 12	M in 1000#	V in 1000#	Concrete Type	Width	Depth	Tee	Straight No	Straight Size	Straight Length	Additional Steel No	Size	Length	Remarks	Bent No	Size	Length	m	k	a	b	c	d	e	f	g	J	h	Stirrups No	Size	Type	Spacing
B1	10	58.7	18.7	A	12	18		4	5/8"	16'-0"					2	7/8"	20'-3"	1'-3"	—	9"	1'-8"	1'-9"	8'-0"	1'-9"	6'-4"	—	3'-11"	1'-3"	16	3/8"ø	D	3-5-5-7-7-9-12-12 Ea. End
B-2	12	54.8	20.0	A	12	18		2	7/8"	17'-6"					2	7/8"	24'-3"	1'-3"	3'-11"		6'-6"	1'-9"	7'-9"	1'-9"	6'-6"		3'-11"	1'-3"	16	3/8"ø	D	3-5-5-7-7-9-12-12 Ea. End
B-3	12	50.0	20.3	A	12	18		1, 1	3/4, 7/8	17'-6"					1, 1	3/4, 7/8	24'-3"	1'-3"	3'-11		6'-6"	1'-9	7'-9	1'-9"	6'-6"		3'-11"	1'-3"	16	3/8"ø	D	3-5-5-7-7-9-12-12
B-4	12	38.3	14.0	B	12	18		2	3/4"	17'-6"					1	1"	24'-3"	1'-3"	3'-11		6'-6"	1'-9	7'-9	1'-9"	6'-6"		3'-11"	1'-3"	10	3/8"ø	D	4-9-9-12-12 Ea. End
B5	10	45.0	14.0	B	12	18		3	5/8"	17'-3"					2	3/4"	21'-2"	1'-3"	3'-8"		6'-3"	1'-9"	8'-7"	1'-9"	2'-1"	6"		1'-3"	10	3/8"ø	D	4-9-9-12-12 Ea. End
B6	10	123.0	29.3	A	14	24		3	1"	23'-3"	2	1 1/4"	10'-0"	centered over col 42	2	1"	27'-5"	1'-8"		9"	2'-8"	2'-4"	11'-0"	2'-4"	8'-4"		5'-0"	1'-8"	26	3/8"ø	D	2-4-4-4-4-6-6-6-9-9-12-12-12 Ea. End
B7	10	24.4	12.3	A	12	18		3	5/8"	11'-6"	1, 1	1 1/4", 5/8"	8'-0", 3'-0"	centered over Col 34 41; hooked - Top at Wall	1	5/8"	15'-0"	1'-2"		6"	10"	1'-8"	5'-2"	1'-8"	5'-2"		3'-11"	1'-2	8	3/8"ø	D	4-8-8-12 Ea. End
B8	10"	65.5	20.0	A	12	18		2	1 1/2	19'-6"					2	7/8"	23'-3"	1'-2"	2'-11"		4'-10	1'-8	9'-3"	1'-8	5'-11"		4'-0	1'-2	18	3/8"ø	D	3-5-5-6-6-8-11-12-12 Ea. End
B9	10	65.6	20.0	A	12	18		4	3/4"	18'-0"	1	5/8"	8'-0"	over col 35-40	1	1 1/8	21'-3"	1'-2"	3'-11 3/4		6'-8 3/4	1'-8"	8'-5 1/4	1'-8"	2'-0"	9"		1'-3"	18	3/8"ø	D	3-5-5-6-6-8-11-12-12 Ea. End
B10	10	110.5	26.2	A	12	23		4	3/4"	22'-6"					2	1"	27'-2"	1'-7"		9"	2'-9"	2'-3"	11'-0"	2'-3"	8'-5"		5'-6"	1'-7"	24	3/8"ø	D	2-4-4-4-4-6-6-9-9-9-12-12 Ea. End
B11	12	91.6	26.2	A	12	23		2	1"	25'-0"					2	1"	30'-3"	1'-7"	5'-0"		8'-5"	2'-3"	9'-11"	2'-3"	7'-5"		4'-0"	1'-7"	24	3/8"ø	D	2-4-4-4-4-6-6-6-9-9-12-12 Ea. End
B12	10	63.3	19.5	A	12	23		3	3/4"	16'-8"	1	7/8"	10'-0"	Top Over Col 22	1	1"	22'-3"	1'-7"	5'-0"		7'-2"	2'-3"	8'-3"	2'-3"	1'-7"	9"		1'-7"	12	3/8"ø	D	4-7-7-9-12-12 Ea. End
B13	10	43.7	12.5	C	12	18		3	5/8"	19'-6"					2	3/4"	23'-0	1'-3"		6"	2'-3	1'-9"	9'-1 1/2	1'-9	7'-9 1/2		4'-10 1/2	1'-3"	10	3/8"ø	D	5-10-12-12-12 Ea. End
B14	10	62.6	15.2	C	12	18		3	3/4"	23'-0"	1	7/8"	10'-0"	Top Over Col 36/39	3	3/4"	25'-7"	1'-3"	4'-2 1/2		6'-11 1/2	1'-9	10'-9 1/2	1'-8"	3'-11	6"		1'-2"	14	3/8"ø	D	4-7-7-9-9-12-12 Ea. End
B15	10	33.6	10.5	B	12	18		2	3/4"	16'-9"	1	7/8"	8'-0"	Top over col 14	1	7/8"	20'-8"	1'-3"		9"	2'-0"	1'-9"	8'-1 1/2	1'-9	6'-3 1/2		3'-9 1/2	1'-3	8	3/8"ø	D	6-12-12-12 Ea. End
B16	10	74.6	21.2	A	12	19		4	3/4"	18'-6"	1	5/8	4'-6"	Top at Wall	2	7/8"	22'-4"	1'-3"		9"	2'-1"	1'-9"	9'-0 1/2	1'-9"	6'-1 1/2"		4'-1 1/2	1'-3"	20	3/8"ø	D	3-4-4-4-4-7-7-10-12-12 Ea. End
B17	12	54.5	20.0	A	12	19		2	7/8"	18'-3"					2	7/8"	24'-0"	1'-3	3'-10 1/2		6'-4 1/4	1'-9	7'-8 3/4	1'-9"	6'-4 3/4		3'-10"	1'-3"	18	3/8"ø	D	3-5-5-5-7-7-10-12-12 Ea. End
B18	12	51.3	17.8	A	12	19		1, 1	7/8, 3/4	17'-3"					1, 1	7/8, 3/4	23'-0	1'-3"	3'-9"		6'-1"	1'-9"	7'-3 1/4	1'-9	6'-1 3/4		3'-9 3/4	1'-3"	18	3/8"ø	D	3-5-5-5-7-7-10-12-12 Ea. End
B19	12	48.2	18.6	A	12	19		1, 1	7/8, 3/4	19'-0"					1, 1	7/8, 3/4	23'-0"	1'-3"	3'-6 3/4		5'-10 3/4	1'-9"	7'-3 1/4	1'-9"	6'-4"		4'-0"	1'-3"	14	3/8"ø	D	3-6-6-8-10-10-12 Ea. End
B20	12	60.5	21.0	A	12	19		2	7/8"	22'-0"					2	7/8"	25'-0"	1'-3"	3'-8"		6'-5"	1'-9"	8'-2 1/4	1'-9"	6'-10 3/4		4'-1 3/4	1'-3"	20	3/8"ø	D	3-4-4-4-4-7-7-10-12-12 Ea. End
B-21	10	42.0	16.9	A	12	19		4	5/8"	13'-2"	1, 1	3/4"	8'-0", 3'-0"	Top over Col 9; Top 6" hook at Wall	1	3/4"	17'-0"	1'-3"	4'-1 1/2		5'-8 1/2	1'-9"	6'-1 1/2	1'-9"	1'-2"	6"		1'-3"	12	3/8"ø	D	3-6-6-8-10-12 Ea. End
B-22	10	67.0	16.2	A	12	20		3	3/4"	24'-0"					2	7/8"	25'-11"	1'-4"		9"	2'-11"	1'-11	10'-9 1/2	1'-11	9'-7 1/2		4'-0 1/2	1'-4"	14	3/8"ø	D	4-8-8-10-12-12-12 Ea. End
B-23	10	80.0	21.8	A	12	20		4	3/4"	19'-9"	1	1 1/8	10'-0"	Top over Col 20	2	7/8"	23'-6"	1'-4"	5'-1 1/2		7'-10 1/2	1'-11"	9'-0 1/2	1'-11"	2'-0"	9"		1'-4"	22	3/8"ø	D	3-5-5-5-5-7-7-7-10-10-10 10-10-10-7-7-7-5-5-5-3
B-24	10	23.2	9.0	B	12	18"		3	1/2"	13'-6"	1, 1	1/2, 1"	5'-6", 6'-0"	Top 6" hook at Wall; Top over Col 26	1	3/4"	16'-3"	1'-2"		6	1'-2"	1'-8"	6'-1 1/2	1'-8	5'-1 1/2		3'-4 1/2	1'-2"	8	3/8"ø	D	4-9-9-9 Ea. End
B-25	12	61'-0	24.7		12	18"		2	1"	17'-0"				Drop 20" pan as shown for B38	2	1"	19'-9	1'-2	3'-0"		5'-0 1/2	1'-8"	6'-4"	1'-8"	5'-0 1/2		3'-0"	1'-2"	20	3/8"ø	D	3-6-6-6-6-6-6-6-6-6
B-26	10	26.5	9.9	B	12	18"		3	5/8"	14'-0"	1, 1	1/2"	6'-0, 3'-6"	Top over Col 23; Top 6" hook at Wall	1	3/4"	17'-0"	1'-2	3'-4"		5'-2	1'-8	6'-7"	1'-8	1'-5"	6"		1'-2"	8	3/8"ø	D	4-9-9-9 Ea. End
B-27	12	48.6	18.7	A	12	19		1, 1	7/8, 3/4	17'-6"				See Detail this sheet	1, 1	7/8, 3/4	23'-3"	1'-3"	4'-1"		6'-5 1/2	1'-9"	7'-3 1/4	1'-9	6'-0 1/4		3'-5 3/4	1'-3"	14	3/8"ø	D	3-6-6-8-10-10-12 Ea. End
B-28	12	51.3	19.8	A	12	19		1, 1	7/8, 3/4	17'-6"					1, 1	7/8, 3/4	23'-0"	1'-3"	3'-8"		6'-0 1/2	1'-9"	7'-3 1/4	1'-9	6'-2 1/4		3'-10 3/4	1'-3"	16	3/8"ø	D	3-5-5-5-7-7-10-12 Ea. End
B-29	12	36.6	16.4		12	19		2	1"	15'-4"	2	7/8"	22'-4"	Top See Detail															16	3/8"ø	D	3-7-7-9-9-12-12-12 Ea. End
B-30	10	109.0	26.4	A	14	24		3	7/8	28'-6"	1	3/4"	9'-0"	Top Over Col 24	3	7/8"	31'-2	1'-7"	5'-0"		8'-4	2'-3"	10'-0"	2'-3"	8'-4"		5'-0 3/4	1'-7"	20	3/8"ø	D	3-5-5-5-7-7-9-9-12-12 Ea. End
B31	12	94.2	26.7	A	14	24		2	1"	24'-3"					3	3/4"	31'-6"	1'-7"	5'-0"		8'-5	2'-3"	10'-2 1/2	2'-3"	8'-4 1/2		4'-11 1/2	1'-7"	20	3/8"ø	D	3-5-5-5-7-7-9-9-12-12 Ea. End
B-32	10	140.0	33.1	A	14	24		4	7/8	26'-0"	1, 1	3/4", 1/2"	10'-6", 5'-6"	Top over Col 10; Top 6" hook at Wall	2	1 1/8"	29'-0"	1'-7"	5'-1		8'-11	2'-3"	12'-0"	2'-3"	2'-10"	9"		1'-7"	32	3/8"ø	D	2-4-4-4-4-5-5-5-5-7-7-7-9-9-12-12
See stair detail sheet No for BMS 33 — 34 AND 34A																																
B35	10	75.0	23.5	C	12	21		3	7/8"	17'-6"	2	1"	8'-0"	Top over Col 14	1	1 1/8	20'-8	1'-5"		9	1'-8	2'-0"	8'-1 1/2	2'-0	6'-1 1/2		3'-6 1/2	1'-5"	20	3/8"ø	D	2-4-4-4-6-6-6-9-12-12 Ea. End
B36	8	23.7	9.9	B	12	16		3	5/8"	12'-9"	1	1/2"	3'-6"	Top Each End	1	5/8	13'-4"	1'-1"		6	1'-4"	1'-6 1/2	6'-7"	1'-6 1/2	1'-4"	6"		1'-1"	8	3/8"ø	E	5-9-9-9 Ea. End
B37	8	55.1	9.4	B	11 1/2	19		3	1"	21'-4"	3	1"	21'-4"	Top.															18	3/8"ø	G	6-12-12-12-12-12-12-12-12 Ea. End
B38	8	81.5	12.9		11	19		2	1 1/8"	24'-7"				see Detail this sheet	2	7/8"	25'-7"	1'-3"		9	3'-8"	1'-9"	13'-3 1/2	1'-9"	3'-7"	9"		1'-3"	14	3/8"ø	E	5-10-10-10-12-12-12 Ea. End
B-39	8	55.0	15.2	B	12	22		3	7/8"	18'-6"	2	3/4"	18'-0	Top.															16	3/8"ø	E	6-12-12-12-12-12-12-12 Ea. End
B-40	12	59.2	19.6	A	12	19		2	7/8"	17'-3"					2	7/8"	23'-6"	1'-3"	4'-0		6'-4"	1'-9"	7'-3 1/4	1'-9	6'-4 3/4		4'-0 3/4	1'-3"	22	3/8"ø	D	3-5-5-5-5-5-5-8-8-8-8 Ea. End
B-41	12	66.0	22.4	A	12	19		1, 1	1", 7/8	19'-0"					1, 1	1", 7/8	23'-6"	1'-3"	4'-0		6'-4	1'-9"	7'-3 1/4	1'-9	6'-4 3/4		4'-0 3/4	1'-3"	28	3/8"ø	D	2-4-4-4-4-4-4-4-4-7-7-7-7-7 Ea. End
B-42	10	72.5	21.0	A	12	19		4	3/4"	18'-6"	1	5/8	4'-6"	Top over Col 9	1	1 1/4"	22'-1"	1'-3"	4'-0 3/4		6'-10 3/4	1'-9"	8'-10 1/4	1'-9	2'-1"	9"		1'-3"	20	3/8"ø	D	2-4-4-4-4-7-7-10-12-12 Ea. End
B-43	8	15.5	3.6	B	8	16		1	3/4"	17'-9"					1	5/8"	18'-8"	1'-1"		6 1/2	2'-2"	1'-6 1/2	9'-10 1/2	1'-6 1/2	2'-4"	6"		1'-1"	NONE			
B-44	8	34.0	10.3	See Sec this sheet				2	3/4"	12'-8"					1	3/4"	14'-3"	1'-4"		6 1/2	1'-1"	1'-11"	6'-9 1/2	2'-0"	1'-5"	6"		1'-9"	8	3/8"ø	F	6-12-12-12 Ea. End
B45	8	89.6	17.5	B	12	22		3	7/8	21'-5					1	1 1/4"	22'-7	1'-6"		9"	2'-7	2'-1"	11'-9	2'-1"	2'-7"	9"		1'-6"	14	3/8"ø	D	4-8-8-10-12-14-14 Ea. End
B-46	10	112.0	26.5	A	12	23		3	1"	22'-4	1	7/8	5'-6"	Top over Col 20	2	7/8"	27'-1"	1'-7"		9"	2'-5"	2'-3"	11'-0"	2'-3"	8'-5"		5'-0"	1'-7"	24	3/8"ø	D	2-4-4-4-4-6-6-6-9-9-12-12 Ea. End
B47	8	19.8	8.2	B	12	16		2	5/8	21'-5					1	5/8"	22'-0"	1'-1"		6"	3'-0	1'-6 1/2	11'-11	1'-6 1/2	3'-0"	6"		1'-1"	None			
B48	10	63.3	19.5	A	12	23		3	3/4	16'-8	1	7/8	10'-0	Top over Col 22	1	1"	22'-3"	1'-7"	5'-0		7'-2"	2'-3"	8'-3"	2'-3"	1'-7"	9"		1'-7"	12	3/8"ø	D	4-7-7-9-12-12 Ea. End
B49	10	56.0	26.0	×	12	18"		3	7/8"	14'-9"				Drop Pan as shown for B38	2	1"	17'-9"	1'-2"		9"	1'-6"	1'-8"	7'-1"	1'-8"	5'-1"		3'-1"	1'-2"	18	3/8"ø	D E	3-6-6-8-8-9-9-9-9 Ea. End
B50	8	75.2	11.6	B	16	19		3	1 1/8	22'-3	3	1 1/8	22'-3	Top															18	3/8"ø	G	6-12-12-12-12-12-12-12-12 Ea. End
B51	12	44.8	22.4	A	14	18		1	7/8" & 1 3/4"					str. bars in bot. x17'-3"	1, 1	7/8, 3/4	23'-0"	1'-2	3'-8		6'-0"	1'-8"	7'-6 1/4	1'-8"	6'-1 3/4		3'-9 3/4	1'-2	26	3/8"ø	D	2-4-4-4-4-6-6-6-6-10-10-10 10-10-10-6-6-6-6-4-4-4-2
B52	12	29.2	18.1	A	14	18		2	5/8"	14'-4				SEE DETAIL B49	1	7/8	23'-4"	1'-2"	5'-0		6'-11	1'-8"	6'-2"	1'-8"	6'-11"		5'-0	1'-2	11	3/8"ø	D	3-6-6-6-6-6 12-12-12-9-6
B53	10	157.5	32.3	A	14	24		4	7/8	26'-0	1	5/8	11'-0"	Top over col 10	2	1 1/4	28'-10	1'-8	5'-0		8'-10	2'-4	11'-11"	2'-4	2'-8"	9		1'-8	20	1/2"ø	D	4-7-7-7-10-10-12-14-14-14
B54	10	27.6	8.7	H	12	16		2	3/4"	18'-3"	2	1/2"	19'-0	Top	1	3/4	20'-0"	1'-1"		6	2'-0	1'-6 1/2	7'-11 3/4	1'-6 1/2	6'-5 1/4		3'-10 1/4	1'-1"	18	1/4"ø	G	3-7-7-9-9-9-9-9-9 EA END
B55	12	26.2	9.4	"	12	16		2	3/4"	17'-9"	2	1/2"	16'-0	Top	1	3/4	23'-10"	1'-1"	3'-8		6'-5	1'-6 1/2	7'-8 3/4	1'-6 1/2	6'-7 1/4		3'-10 1/4	1'-1"	22	1/4"ø	G	3-6-6-6-6-6-9-9-9-9-9-9-9 Ea. End
B56	10	23.7	6.6	"	12	16		2	5/8	17'-6"					2	5/8	23'-8"	1'-1	3'-8 1/4		6'-5 1/4	1'-6 1/2	7'-8 3/4	1'-6 1/2	6'-5"		3'-8	1'-1"	22	1/4"ø	G	3-6-6-6-6-6-9-9-9-9-9-9-9 Ea. End
B57	10	6.7	1.9	"	12	16		2	1/2	17'-0					1	1/2"	21'-0"	1'-1"	3'-10 1/2		6'-7 1/2	1'-6 1/2	8'-7 1/2	1'-6 1/2	2'-2"	6"		1'-1"	None			
B58	10	12.2	5.7	"	12	16		2	1/2"	11'-0"	1	1/2"	3'-0	Top hook at wall	1	1/2"	15'-0"	1'-1"		6	10"	1'-6 1/2	5'-4 1/2	1'-6 1/2	5'-2 1/2		3'-10 1/2	1'-1"	None			
B59	10	31.0	9.4	"	12	16		2	7/8"	18'-0"	2	3/4"	22'-0	Top	1	5/8	24'-0"	1'-1"	3'-10"		6'-7	1'-6 1/2	7'-8 3/4	1'-6 1/2	6'-7 1/4		3'-10 1/4	1'-1	22	1/4"ø	G	3-6-6-6-6-6-9-9-9-9-9-9 Ea. End
B60	12	26.2	9.4	"	12	16		2	3/4"	17'-6"	2	1/2	16'-0	Top	1	3/4	24'-2"	1'-1"	3'-10"		6'-7	1'-6 1/2	7'-8 1/4	1'-6 1/2	6'-9 3/4		4'-0 3/4	1'-1"	22	1/4"ø	G	3-6-6-6-6-9-9-9-9-9-9 Ea. End
B61	10	26.2	8.1	"	12	16		2	3/4"	18'-0	2	1/2	21'-0	Top	1	3/4	21'-10"	1'-1"	3'-10 1/2"		6'-10 1/2	1'-6 1/2	9'-0 1/2	1'-6 1/2	2'-4	6		1'-1"	20	1/4"ø	G	3-6-9-9-9-9-9-9-9-9 Ea. End
B62	8	50.4	9.8	"	12		SEE DET.	2	7/8"	21'-0"	2	1/2"	21'-0	Top															14	3/8"ø	G	6-12-18-18-18-18-18 Ea. End
B63	10	52.5	12.1	"	12	18		3	1"	21'-6"	3	1"	22'-6"	Top															20	3/8"ø	G	5-10-12-12-12-12-12-12-12-12 Ea. End
B64	12	43.3	12.5	"	12	18		3	7/8"	22'-0"	2	1"	22'-6"	Top															20	3/8"ø	G	5-10 12-12-12-12-12-12-12-12 Ea. End
B65	10	29.7	9.3	"	12	18		2	7/8"	17'-0"	2	5/8	17'-0"	Top	1	5/8	21'-9"	1'-2	5'-0		7'-7"	1'-8"	8'-4"	1'-8"	2'-0"	6"		1'-2"	14	3/8"ø	G	6-12-12-12-12-12-12 Ea. End
B66	8	+19.6 / -59.6	19.8	"	SEE DETAIL THIS SHEET																											
B-67	10	28.5	7.8	"	12	16		2	5/8"	17'-0"					1	3/4"	20'-10"	1'-1"		6"	2'-2"	1'-6 1/2	8'-5 3/4	1'-6 1/2	6'-7 1/4		3'-10 1/4	1'-1"	22	1/4"ø	G	3-6-6-6-6-9-9-9-9-9-9 Ea. End
B68	12	23.6	9.6	"	12	16		1	7/8"	17'-0"	1	1/2"	8'-0	Top ea. end	1	3/4	24'-0"	1'-1"	3'-10 1/2"		6'-7 1/2	1'-6 1/2	7'-8	1'-6 1/2	6'-7 1/2		3'-10 1/2	1'-1"	12	1/4"ø	D	3-6-6-8-9-9 Ea. End
B69	12	34.3	10.0	"	12	16		2	1"	17'-4"	2	7/8	17'-9"	Top															20	1/4"ø	G	3-5-5-7-7-9-9-9-9-9 Ea. End
B70	12	23.3	9.1	"	12	16		1	7/8"	17'-0"					1	3/4	23'-0	1'-1"	3'-8		6'-2	1'-6 1/2	7'-2 1/4	1'-6 1/2	6'-6 3/4		4'-0 3/4	1'-1"	10	1/4"ø	D	3-6-6-8-10 Ea. End
B71	12	30.0	10.4	"	12	16		2	1"	19'-3"	1	1"	19'-6"	Top															24	1/4"ø	G	2-4-4-6-6-9-9-9-9-9-9-9 Ea. End
B72	10	17.1	6.9	"	12	16		2	1/2"	13'-0"	1	3/4	8'-0	Top over Col 9	1	3/4	17'-0"	1'-1"	4'-2 1/2		5'-11 1/2	1'-6 1/2	6'-1 1/2	1'-6 1/2	1'-4	6		1'-1	10	1/4"ø	D	5-9-9-9-9 Ea. End
B73	10	18.5	6.5	"	12	16		2	1/2	16'-0"					1	3/4	19'-9"	1'-1		6"	1'-10"	1'-6 1/2	7'-10 1/4	1'-6 1/2	6'-5 3/4		3'-10 3/4	1'-1"	8	1/4"ø	D	5-9-9-9 Ea. End
B74	12	24.1	9.3	"	12	17		1	7/8"	17'-3"	1	1/2	8'-0	Top ea. end	1	3/4	23'-0"	1'-2"	3'-8		6'-2"	1'-8	7'-3 1/4	1'-8	6'-2 3/4		3'-8 3/4	1'-2"	10	1/4"ø	D	3-7-7-9-9 Ea. End
B75	12	23.0	11.3	"	12	17		1	7/8	14'-0"					1	3/4	20'-6"	1'-2"	3'-8		5'-7"	1'-8	6'-0"	1'-8"	5'-7		3'-8	1'-2"	12	1/4"ø	D	5-9-9-9-9 9-9-8-6-4-4-2
B76	10	53.6	13.0	"	12	18		3	1"	26'-0"	3	1"	24'-0"	Top															26	1/4"ø	G	2-4-4-4-4-6-6-6-8-10-12-12-12 Ea. End
B77	12	46.0	13.0	"	12	18		2	1 1/8	22'-0	2	1"	23'-4	Top															28	1/4"ø	G	2-4-4-4-4-6-6-6-6-8-10-12-12-12 "
B78	10	64.0	14.1	"	12	20		2	1 1/4	23'-9"	2	1 1/4	24'-3"	Top															28	1/4"ø	G	2-4-4-4-4-5-5-5-5-8-10-10-12-12 "
B79	10	8.6	2.4	"	12	12		2	5/8	17'-0"	2	1/2	18'-0"	Top	See Section AA Sheet #35 for Detail of Wall end														16	1/4"ø	G	6-12-12-12-12-12-12-12. Ea. End
B80	10	14.9	4.1	"	12	12		2	5/8	22'-0	2, 2	1/2, 5/8	20'-9", 7'-0"	Top; Top End	See Detail G " # " " " " "														18	1/4"ø	G	6-12-12-12-12-12-12-12-12 Ea. End
B81	10	5.8	1.4	"	12	12		2	1/2	21'-0	2	1/2"	21'-0	Top	" Section AA " " " " " "														18	1/4"ø	G	6-12-12-12-12-12-12-12-12 Ea. End
B82	10	4.0	1.2	"	12	12		2	1/2	18'-0	2	1/2	21'-0"	Top	" " " " " " " "														16	1/4"ø	G	6-12-12-12-12-12-12-12 Ea. End
B83	8	5.0	1.2	"	12	12		2	1/2	25'-9	2	1/2	25'-9	Top	" " " " " "														16	1/4"ø	G	6 12 12 12 12 12 12 12 Ea. End
B84	8	1.3	.6	"	12	12		Steel from B83																					6	1/4"ø	G	6-12-12 Ea. End
B85	8	7.2	1.4	"	12	12		2	5/8	21'-0"	2	1/2"	21'-0"	Top															22	1/4"ø	G	6-12-12-12-12-12-12-12-12-12-12 "
B86	8	5.0	1.2	"	12	12		2	1/2	17'-6"	2	1/2"	18'-0"	Top															16	1/4"ø	G	6-12-12-12-12-12-12-12 Ea. End
B87	10	5.8	1.4	"	12	12		2	1/2"	21'-6"	2	1/2"	21'-0"	Top															18	1/4"ø	G	6-12-12-12-12-12-12-12-12 "
B88	10	4.0	1.2	"	12	12		2	1/2	18'-0	2	1/2"	18'-0"	Top															16	1/4"ø	G	6-12-12-12-12-12-12-12 "
B89	10	22.2	9.3	"	12	14		2	7/8	21'-6"	2	5/8	22'-6"	Top	See detail G sheet #35 for detail of Wall end														24	1/4"ø	G	SEE DET. G 12" continuous 4 4 4 4 4 2
B90	10	8.4	3.3	"	12	14		2	5/8	18'-0"	2	1/2	18'-6"	Top	" " " " " " " " " "														17	1/4"ø	G	" 12-12-12-12-12-12-12-12-12-12-6
B91	10	4.8	2.9	"	12	17		2	5/8	13'-0	2	1/2	13'-0	Top	" " " " " " " " " "														12	1/4"ø	G	" 12-12-12-12-12-6
B92	8	45.4	11.6	"	12	17		2	1 1/4	15'-0	2	1 1/4	18'-9	Top	" " " " " " " " " "														12	3/8"ø	G	6-12-12-12-12-12 EA. END
B93	10	4.5	1.8	H	12	17		2	1/2	14'-0	2	1/2"	13'-0	Top	" " " " " " " " "														12	1/4"ø	G	SEE DET. G 12-12-12-12-12-6
J-1	10	16.5	4.0		5	12 1/2		1	7/8	21'-6"	1	3/4"	9'-0	Top over Bm.	1	3/4	25'-0	9 1/2		6	3'-3 1/2	1'-1 1/2	10'-9 1/2	1'-1 1/2	8'-2		4'-0 1/2	9 1/2	18	1/4"ø	D	3-7-7-7-7-7-7-7-7 Ea. End
J-2	10	11.4	3.3		5	12 1/2		1	3/4	18'-3"					1	5/8	22'-9	9 1/2	5'-0		8'-3 1/2	1'-1 1/2	9'-0 1/2	1'-1 1/2	2'-8"	6"		9 1/2	14	1/4"ø	D	3-7-7-7-7-7-7 Ea. End
J-3	8	14.3	3.3		5	12 1/2		1	7/8	18'-6"					1	5/8	21'-9"	9 1/2	4'-0"		6'-5 1/2	1'-1 1/2	9'-10 1/2	1'-1 1/2	2'-8"	6		9 1/2	14	1/4"ø	D	3-7-7-7-7-7-7 Ea. End
J-4	8	3.7	1.6		5	12 1/2		1	1/2	10'-0					1	1/2	13'-10	9 1/2		6	1'-1 1/2	1'-1 1/2	4'-7"	1'-1 1/2	5'-4 1/2		4'-1	9 1/2	10	1/4"ø	D	3-7-7-7-7 Ea. End
J-5	10	13.1	4.1		5	12 3/4		1	3/4	16'-9"	1	1/2"	8'-0	Top over Bm.	1	3/4	19'-10	9 1/2		6	2'-2 1/2	1'-1 1/2	8'-2	1'-1 1/2	6'-8 1/2		3'-9	9 1/2	18	1/4"ø	D	3-7-7-7-7-7-7-7-7 Ea. End
J-6	10	27.0	5.8		5	12 1/2		1	1 1/8	23'-0	1	3/4"	8'-0	" " "	1	1"	25'-3	9 1/2		9	3'-1 1/2	1'-1 1/2	10'-9 1/2	1'-1 1/2	8'-4"		4'-2 1/2	9 1/2	32	1/4"ø	D	3-4-4-4-5-5-5-7-7-7-7-7-7-7-7-7 "
J-7	10	20.9	4.9		5	12 1/2		1	1"	23'-0	1	3/4"	8'-0	" " "	1	7/8	25'-3	9 1/2		9"	3'-3 1/2	1'-1 1/2	10'-9 1/2	1'-1 1/2	8'-3"		4'-0 1/2	9 1/2	26	1/4"ø	D	3-5-5-5-5-7-7-7-7-7-7-7-7 "
J-8	10	16.5	4.0		5	12 1/2		1	7/8	21'-6"	1	3/4"	9'-0	" " "	1	3/4	25'-0	9 1/2	4 1/2		8'-3"	1'-1 1/2	10'-9 1/2	1'-0 1/2	3'-3 1/2	6		8 3/4	18	1/4"ø	D	3-7-7-7-7-7-7-7-7 Ea. End
J-9	10	11.4	3.3		5	12 1/2		1	3/4	18'-3"					1	5/8	22'-8	8 3/4		6	2'-7 1/2	1'-0 1/2	9'-0 1/2	1'-1 1/2	8'-4"		5'-0 1/2	9 1/2	14	1/4"ø	D	3-7-7-7-7-7-7 Ea. End
J-10	8	20.8	4.0		5	12 1/2		1	1"	21'-3					1	7/8	22'-1"	9 1/2		9	3'-4	1'-1 1/2	11'-9 1/2	1'-0 1/2	3'-3 1/2	9		8 3/4	14	1/4"ø	D	3-7-7-7-7-7-7 Ea. End
J-11	8	20.8	4.0		5	12 1/2		1	1"	21'-3"					1	7/8	22'-2"	9 1/2		9	3'-4	1'-1 1/2	11'-9 1/2	1'-1 1/2	3'-3 1/2	9		9 1/2	14	1/4"ø	D	3-7-7-7-7-7-7 Ea. End
J-12	10	22.6	4.7		5	12 1/2		1	1"	25'-6"					1	7/8	28'-0	9 1/2	4'-1"		9'-0 1/2	1'-1 1/2	12'-1"	1'-1 1/2	3'-10 1/2	9		9 1/2	24	1/4"ø	D	2-4-4-4-4-6-8-8-8-8-8 "
J-13	8	14.3	3.3.		5	12 1/2		1	7/8	17'-8					1	5/8	18'-4"	9 1/2		6	2'-7 1/2	1'-1 1/2	9'-10	1'-1 1/2	2'-7 1/2	6		9 1/2	14	1/4"ø	D	3-7-7-7-7-7-7 Ea. End
J-14	10	22.1	7.0		5	12 1/2		1	1"	23'-0	1	7/8	9'-0	Top over Bm	1	7/8	25'-3 1/2	9 1/2		9	3'-2 1/2	1'-1 1/2	10'-9 1/2	1'-1 1/2	8'-3 1/2		4'-0 1/2	9 1/2	22	1/4"ø	D	3-6-6-6-6-6-7-7-7-7-7 "
J-15	10	11.0	3.2		5	12 1/2		1	3/4	17'-6"	1	3/4	9'-0		1	5/8	21'-5"	9 1/2		6	2'-7 1/2	1'-1 1/2	8'-9"	1'-1 1/2	7'-3 1/2		4'-1	9 1/2	14	1/4"ø	D	3-7-7-7-7-7-7 Ea. End
J-16	8	10.0	3.4		5	12 1/2		2	5/8	9'-9"	2	1/2	9'-9"	Top															14	1/4"ø	G	3-7-7-7-7-7-7 Ea. End
J-17	8	31.5	4.1		5	14 1/2		1	1 1/8	31'-6					1	1"	32'-1	11 1/2		9	4'-3 1/2	1'-4 1/2	19'-3"	1'-4 1/2	4'-3 1/2	9		11 1/2	20	1/4"ø	D	4-9-9-9-9-9-9-9-9-9 Ea. End
J-18	8	14.3	3.3		5	12 1/2		1	7/8	17'-8					1	5/8	18'-3	9 1/2		6	2'-7 1/2	1'-1 1/2	9'-10"	1'-0 1/2	2'-7 1/2	6		8 3/4	14	1/4"ø	D	4-7-7-7-7-7-7 Ea. End

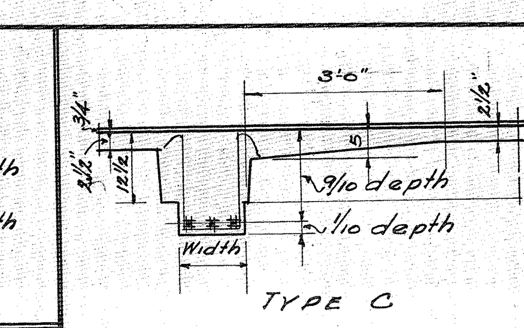
JOIST J(1-2-5-6-7-8-9-12-14 15) TO BE FLARED 4" AT CONTINUOUS END.

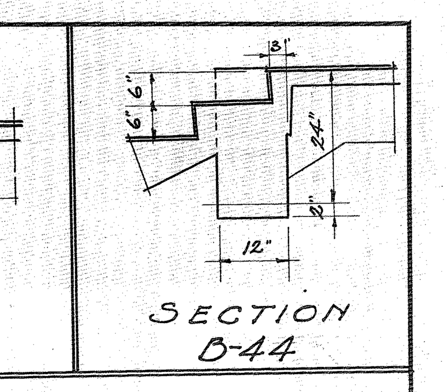
STRAIGHT BARS IN BEAMS AND JOIST TO BE HOOKED AT NON-CONTINUOUS ENDS, LENGTH OF STRAIGHT BARS INCLUDES HOOKS.

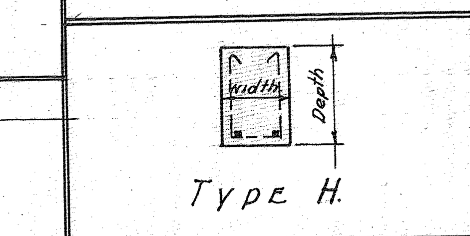


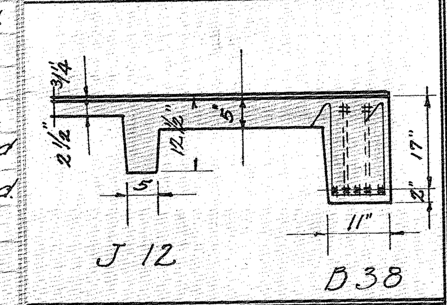


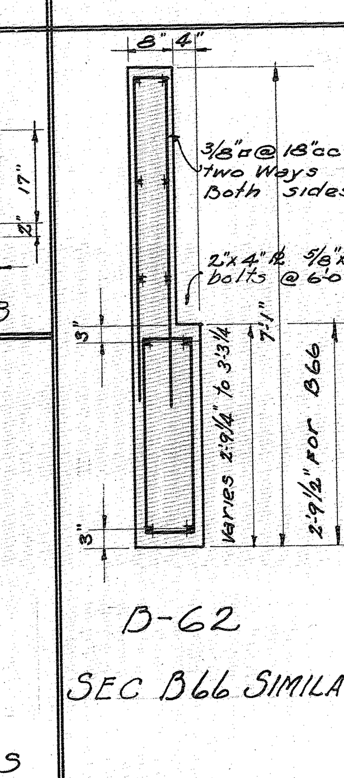


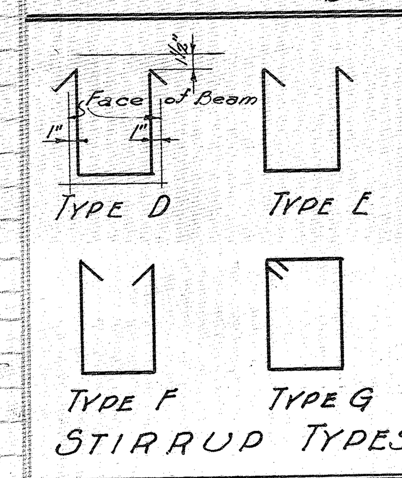


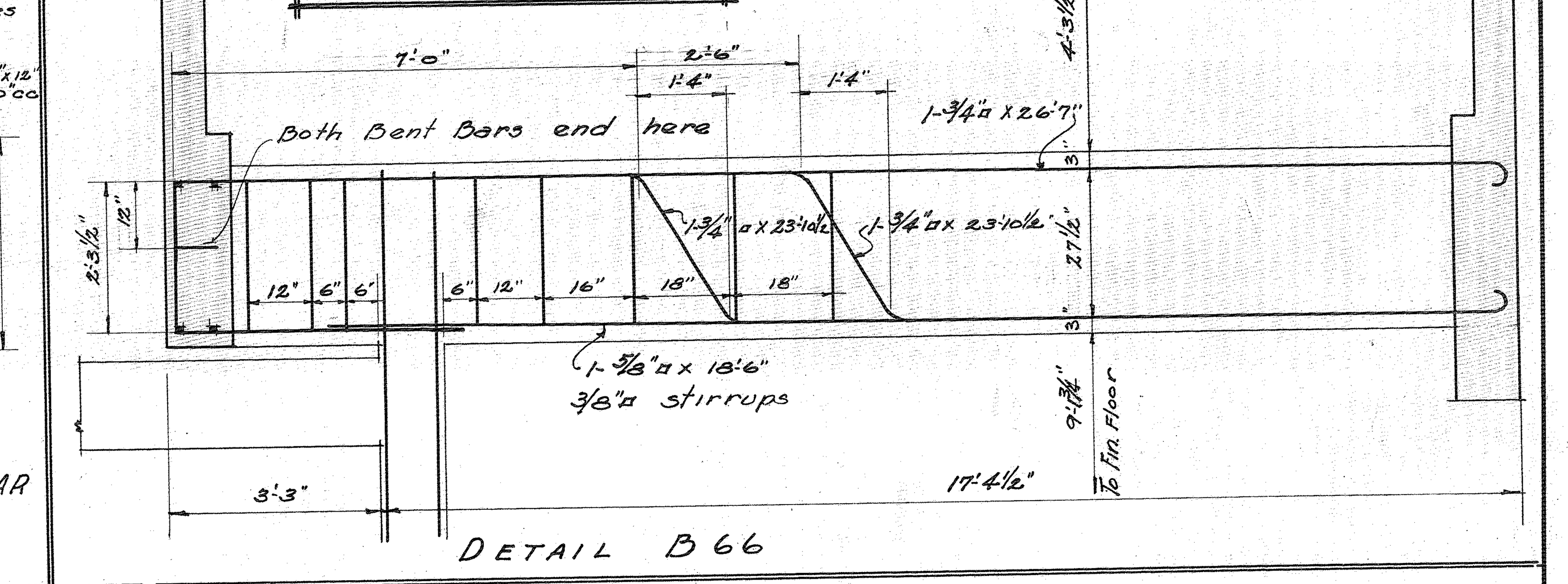


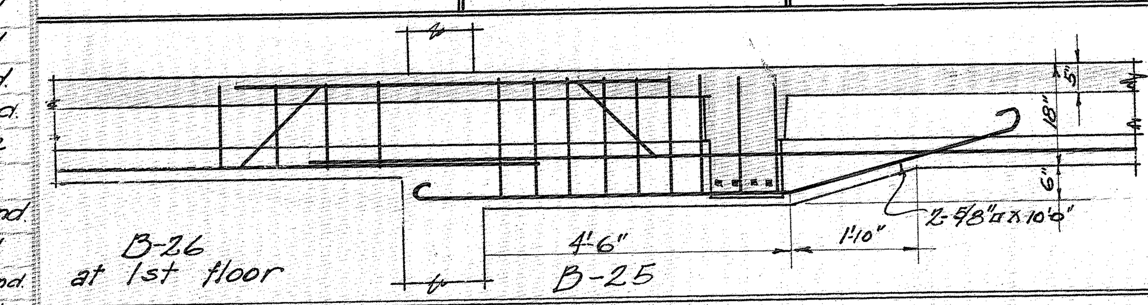


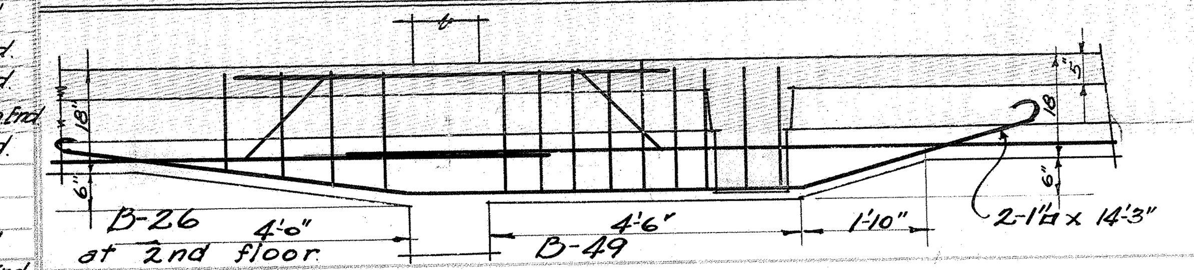


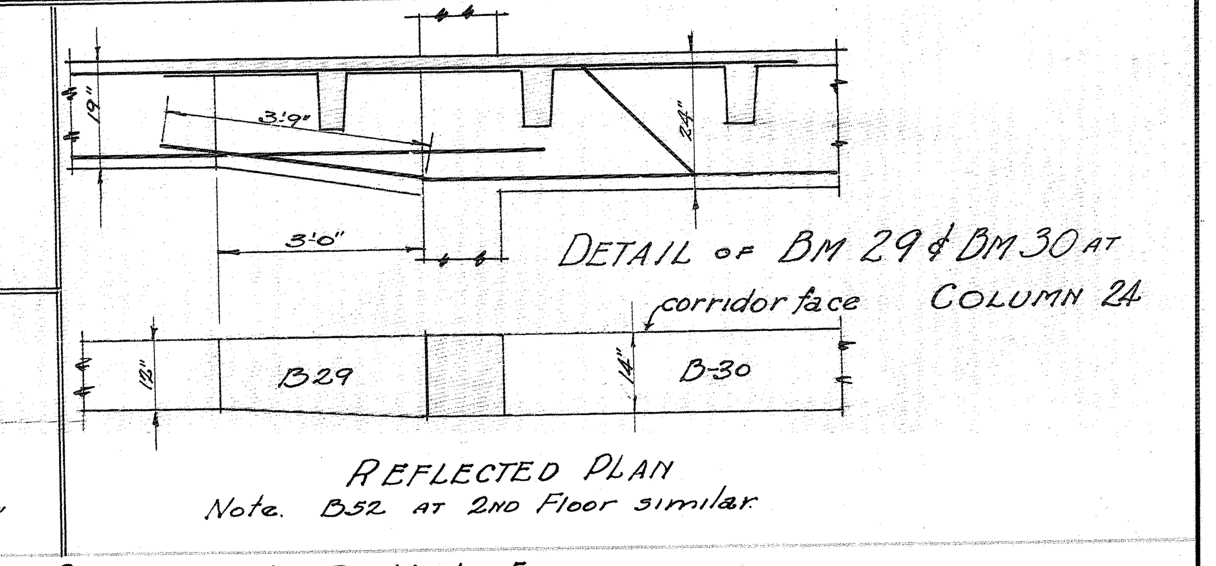






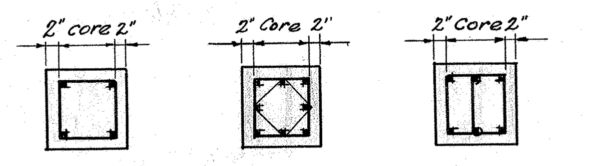




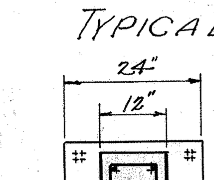


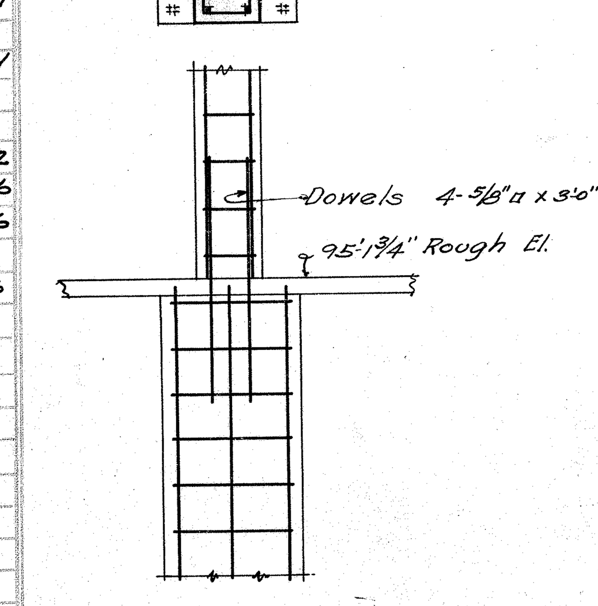
COLUMN SCHEDULE

Level	Column Number	1-2	3	4	5	6	7-8-9 19-25 27-29	10	11	12	13-18	14	15-24 35-40	16-17	20	21	22	23	26	28-33	30	31	32	34-41	36-39	37-38	42	43-44
Top of Beams – Fin 2nd fl. (Varies)	Load in 1000#	23.7	20.9	13.1	13.1	20.9	22.8	32.6	26.3	32.6			28.9	5.7	26.9	29.9	27.0	12.3	17.4	8.6	8.4	6.2	20.5	20.5	25.6	52.5		
	Size Out to Out	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12			12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12		
	Core Size	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8			8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8		
	Bars No & Size	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8			4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-3/4		
	Length	9'-10"	9'-10"	9'-10"	9'-10"	9'-10"	9'-10"	9'-10"	9'-10"	9'-10"			9'-10"	8'-9"	9'-10"	9'-10"	9'-10"	9'-10"	9'-10"	8'-9"	8'-9"	8'-9"	9'-10"	9'-10"	9'-10"	11'-9"		
	Ties Size	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø			1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø		
	Ties Spacing	8"	8	8	8	8	8	8	8	8			8	8	8	8	8	8	8	8	8	8	8	8	8	8		
El. 106'-2 1/2 – Fin 1st fl. (11'-0")	Load in 1000#	67.5	55.5	45.4	45.4	55.5	71.0	95.2	73.8	95.2	27.5	52.0	70.0	22.9	94.4	87.7	79.8	37.2	50.0	30.4	32.5	28.2	60.6	57.7	78.5	98.8		
	Size Out to Out	14x14	14x14	12x12	12x12	14x14	14x14	16x16	14x14	14x14	12x12	14x14	14x14	12x12	14x14	14x14	14x4	14x14	14x14	12x12	12x12	12x12	14x14	14x14	14x14	16x16		
	Core Size	10x10	10x10	8x8	8x8	10x10	10x10	12x12	10x10	10x10	8x8	10x10	10x10	8x8	10x10	10x10	10x10	10x10	10x10	8x8	8x8	8x8	10x10	10x10	10x10	12x12		
	Bars No & Size	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-3/4	4-3/4	4-3/4	4-1 1/8	4-5/8	4-5/8	4-3/4"	4-5/8	4-1 1/8	4-1"	4-7/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-5/8	4-7/8	4-7/8		
	Length	12'-6"	12'-6"	12'-6"	12'-6	12'-6"	12'-6"	12'-6"	12'-6"	12'-6"	12'-6"	10'-9	12'-6"	12'-6"	12'-8"	12'-6"	12'-6"	12'-6	12'-6"	12'-6"	12'-6"	12'-6"	12'-6"	12'-6"	12'-6"	12'-6"		
	Ties Size	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø		
	Ties Spacing	8	8	8	8	8	10	10"	10	10	8	8	10	8	10	8	10	8	8	8	8	8	8	8	10	12		
El. 96'-2 1/2 (Varies)	Load in 1000#	111.0	123.5	110.9	77.4	90.8	111.3	155.3	119.0	141.4	43.3	106.5	116.3	39.5	163.1	143.2	127.3	76.4	70.3	50.9	54.9	43.4	102.9	93.6	130.0	143.8	62.5	58.3
	Size Out to Out	16x16	14x24	14x24	14x14	16x16	16x16	18x18	16x16	18x18	12x12	16x16	16x16	12x12	18x18	18x18	18x18	14x14	14x14	12x12	12x12	12x12	16x16	16x16	18x18	18x18	14x14	14x24
	Core Size	12x12	10x20	10x20	10x10	12x12	12x12	14x14	12x12	14x14	8x8	12x12	12x12	8x8	14x14	14x14	14x14	10x10	10x10	8x8	8x8	8x8	12x12	12x12	14x14	14x14	10x10	10x20
	Bars No & Size	4-1"	6-5/8	6-5/8	4-7/8	4-5/8	4-1"	6-1 1/8	4-1 1/8	4-1 1/8	4-5/8	4-1"	4-1 1/8	4-5/8	6-1 1/8	4-1 1/8	4-7/8	4-7/8	4-3/4	4-3/4	4-7/8	4-5/8	4-7/8	4-3/4	4-7/8"	4-1 1/8	4-5/8	6-5/8
	Length	11'-0"	7'-10"	7'-10"	10'-0	5'-6"	6'-3" 11'-9" #9	6'-9"	6'-9	6'-9"	5'-6"	6'-3"	6'-9"	5'-6 11'-6 #17	6'-9	6'-9"	6'-0	11'-6"	11'-3"	5'-9"	5'-10"	11'-0"	6'-0"	5'-9"	6'-0"	6'-9"	4'-2"	7'-4
	Ties Size	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø	1/4"ø
	Ties Spacing	12	8	8	8	8	12	12	12	14	8	12	12		14	14	12	10	10	8	12	8	8	10	12	14	8	8
	Top Elev Ftg	86.5	87.25	87.25	87.25	91.0	91.0 85.5' #9	91.0	91.0	91.0	91.0	91.0	91.0	91.0 86.0 #17	91.0	91.0	91.0	85.5	85.5	91.0	91.0	85.5	91.0	91.0		91.0	91.0	85.25
	Dowels Size & No	4-1"	6-5/8	6-5/8	4-7/8	4-5/8	4-1"	6-1 1/8"	4-1 1/8	4-1 1/8	4-5/8	4-1"	4-1 1/8	4-5/8	6-1 1/8	4-1 1/8	4-7/8	4-7/8	4-3/4	4-3/4	4-7/8	4-5/8	4-7/8	4-3/4	4-7/8"	4-1 1/8	4-5/8	6-5/8
	Dowels Length	4'-2"	2'-8"	2'-8	3'-8	2'-8"	4'-2"	5'-2"	5'-2"	5'-2"	2'-8"	4'-2"	5'-2"	2'-8"	5'-2"	5'-2"	3'-8"	3'-8"	3'-2"	3'-2"	3'-8"	2'-8"	3'-8"	3'-2"	3'-8"	5'-2"	2'-8"	2'-8"



TYPICAL COL SECTIONS





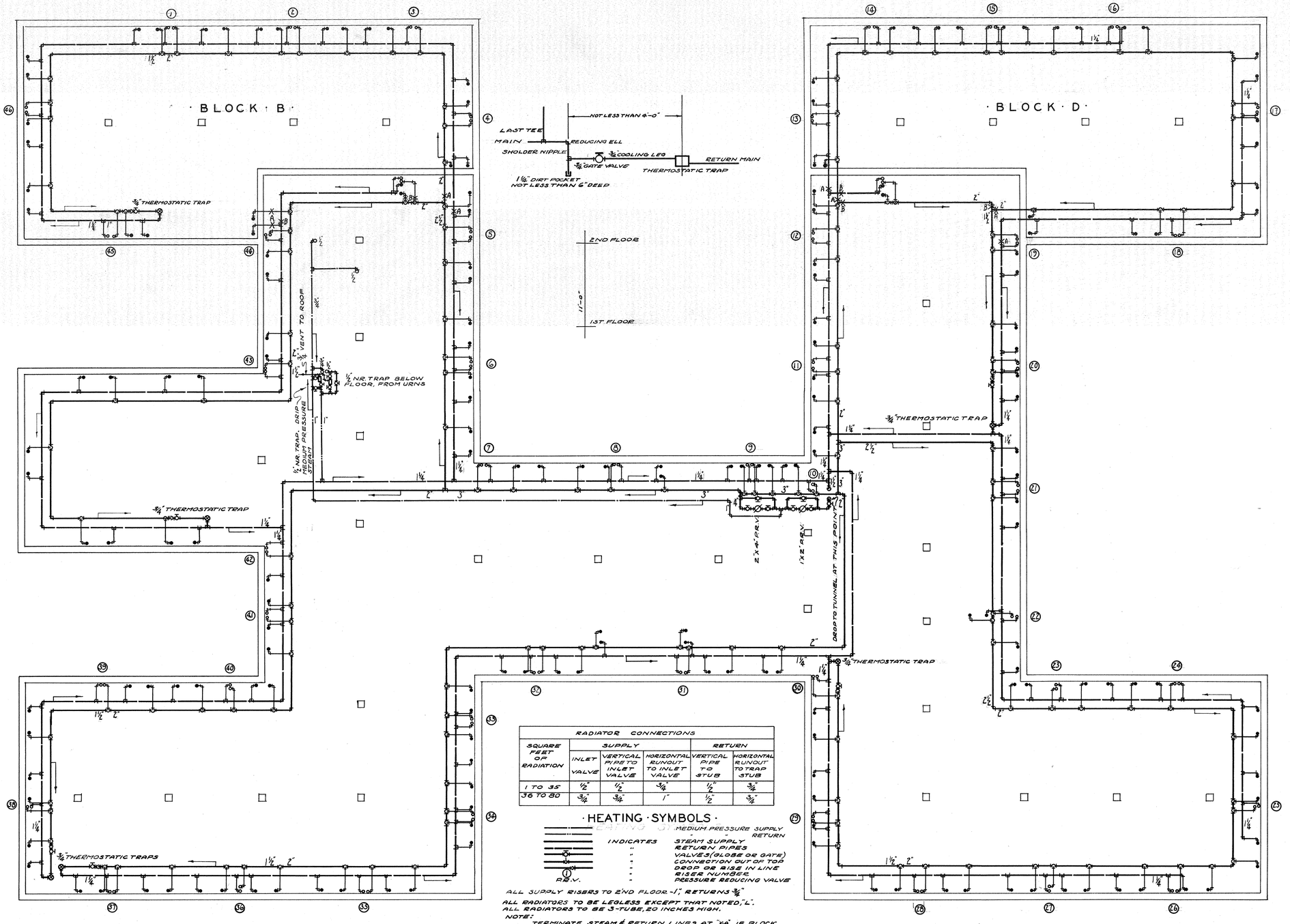
COLS 3 & 4

See sheet S-1 for General note.

JOB NO. 2928	· BEAM · & · COLUMN · SCHEDULE ·	SHEET NO. S-7
DRAWN BY · W·A·B·	· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·	DATE 5-21-28 1928
TRACED BY · W·A·B·	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	
CHECKED BY · J·A·S· · A·S·	Karl W. ... (signature) COUNTY ARCHITECT	
	W. H. Holland (signature) SUPERINTENDENT IN CHARGE — (signature) SUPERVISOR IN CHARGE OF CONSTRUCTION	

53

RLA 130.10



RADIATOR CONNECTIONS					
SQUARE FEET OF RADIATION	SUPPLY			RETURN	
	INLET VALVE	VERTICAL PIPE TO INLET VALVE	HORIZONTAL RUNOUT TO INLET VALVE	VERTICAL PIPE TO STUB	HORIZONTAL RUNOUT TO TRAP STUB
1 TO 35	1/2"	1/2"	3/4"	1/2"	3/4"
36 TO 80	3/4"	3/4"	1"	1/2"	3/4"

HEATING SYMBOLS

MEDIUM PRESSURE SUPPLY
" " RETURN
INDICATES STEAM SUPPLY
" RETURN PIPES
" VALVES (GLOBE OR GATE)
" CONNECTION OUT OF TOP
" DROP OR RISE IN LINE
1 " RISER NUMBER
P.R.V. " PRESSURE REDUCING VALVE

ALL SUPPLY RISERS TO 2ND FLOOR -1", RETURNS 3/4"

ALL RADIATORS TO BE LEGLESS EXCEPT THAT NOTED, "L".
ALL RADIATORS TO BE 3-TUBE, 20 INCHES HIGH.

NOTE:
TERMINATE STEAM & RETURN LINES AT "XA" IF BLOCK B & D ARE NOT INCLUDED IN THIS CONTRACT, CAP FOR FUTURE.
IF BLOCK B & D ARE INCLUDED IN THIS CONTRACT, EXCLUDE RADIATORS AND PIPE SECTIONS "XB".

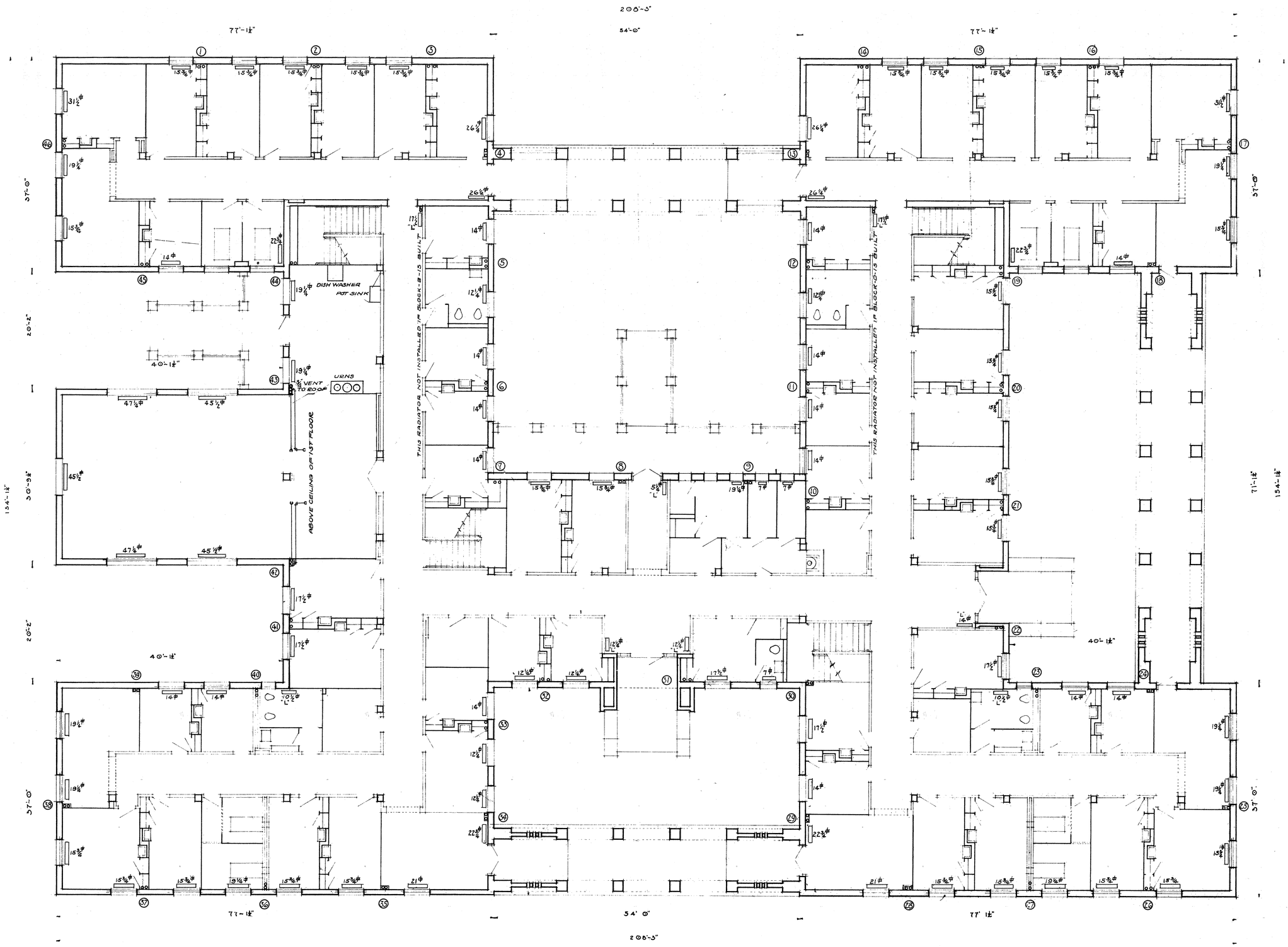
TOTAL RADIATION FOR BLOCK-B = 544 1/4 #
" " " " -D = "
" " " BUILDING EXCLUDING BLOCK-B & D = 2713 3/4 #

SCALE 1/8" = 1'-0"

JOB NO. 2928	PIPING PLAN WOMENS WARD BUILDING AT LOS ANGELES COUNTY FARM	SHEET NO. H-1
DRAWN BY L.F.B. TRACED BY L.F.B. CHECKED BY L.F.B. H.C.S.	DEPARTMENT OF THE COUNTY ARCHITECT COUNTY OF LOS ANGELES Karl W. Muck COUNTY ARCHITECT W. H. Holland SUPERINTENDENT IN CHARGE SUPERVISOR IN CHARGE OF CONSTRUCTION	DATE 5-21-28 1928

54

RLA 30.10



SCALE ⅛=1'-0"

· FIRST · FLOOR · HEATING · PLAN ·		
JOB NO. 2928	WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·	SHEET NO. H-2
DRAWN BY · L·F·B · TRACED BY · L·F·B · CHECKED BY L.F.B. H.C.S.	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES COUNTY ARCHITECT	DATE 5-21-28 1928
	SUPERINTENDENT IN CHARGE	SUPERVISOR IN CHARGE OF CONSTRUCTION

55

120.10

NOT INSTALLED / BLOCK-B-IS BUILT

NOT INSTALLED / IF BLOCK-B-IS BUILT

VENT TO ROOF

SCALE 1/8"=1-0"

SECOND FLOOR HEATING PLAN

WOMENS WARD BUILDING AT LOS ANGELES COUNTY FARM

DEPARTMENT OF THE COUNTY ARCHITECT
COUNTY OF LOS ANGELES

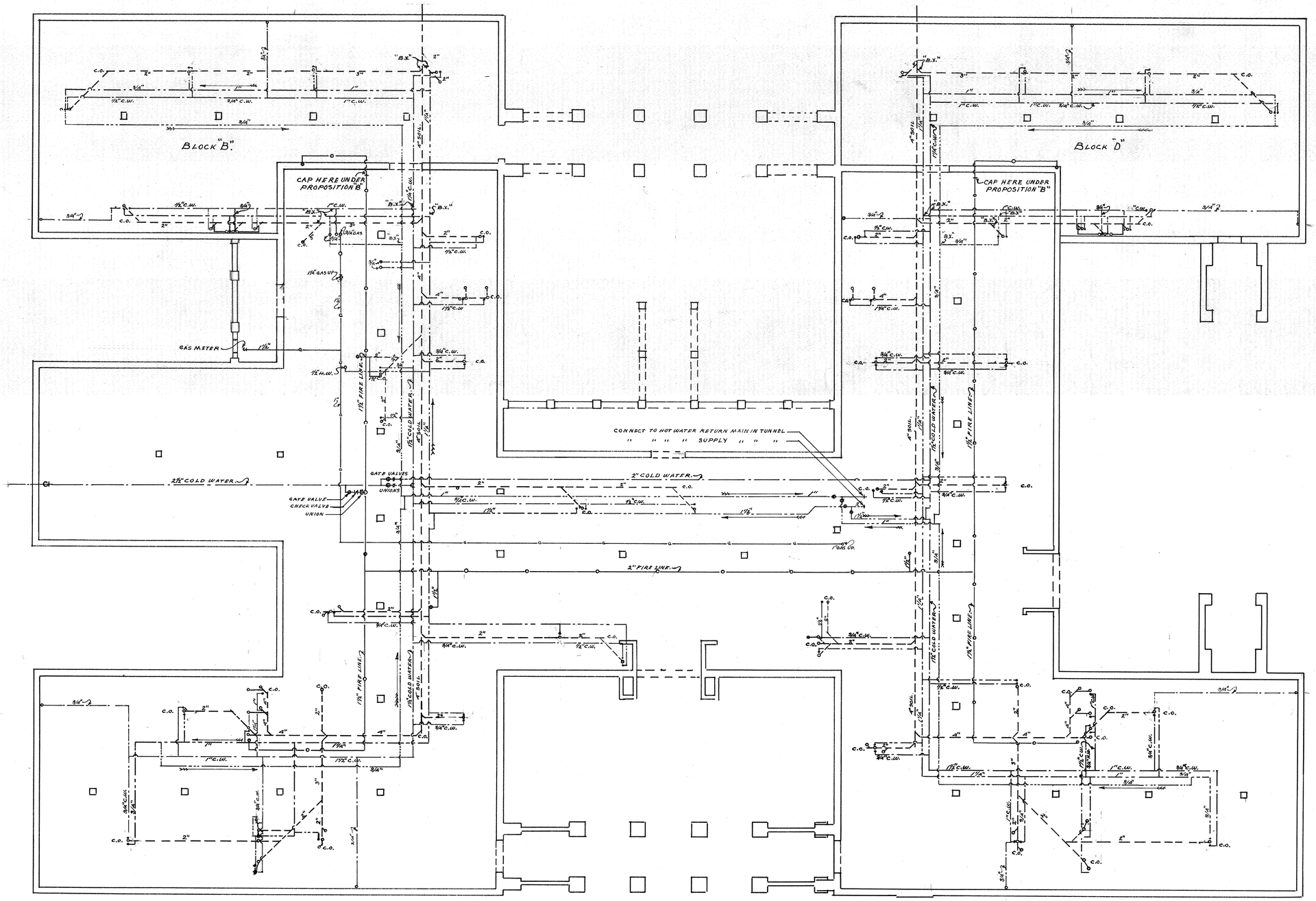
COUNTY ARCHITECT

W. H. Holland
SUPERINTENDENT IN CHARGE

SUPERVISOR IN CHARGE OF CONST.

JOB NO.	SHEET NO.
2928	H-3
DRAWN BY L.F.B.	DATE 5-21-28
TRACED BY L.F.B.	1928
CHECKED BY L.F.B. H.C.G.	

130,10



IF BLOCKS "B" AND "D" ARE NOT INCLUDED IN THIS CONTRACT, ALL POINTS MARKED "B.X" SHALL BE PLUGGED. ALL PIPE SIZES SHALL REMAIN THE SAME AS MARKED.~~
A MINIMUM CLEARANCE OF 2'-6" BELOW THE BOTTOM OF THE BEAMS HAS BEEN PROVIDED, UNDER THE ENTIRE BUILDING.~~
ALL HOT WATER SUPPLY AND RETURN LINES SHALL BE GRADED AS INDICATED BY ARROWS.~~ALL HOT WATER BRANCHES TO GRADE UP FROM MAINS.

LEGEND

SOIL AND WASTE LINES
COLD WATER "
HOT WATER "
FIRE LINES
GAS LINES
HOT WATER RETURN

· BASEMENT · PLUMBING · LAYOUT ·

JOB NO. 2928
DRAWN BY · E·E·S ·
TRACED BY · E·E·S ·
CHECKED BY · E·E·S ·

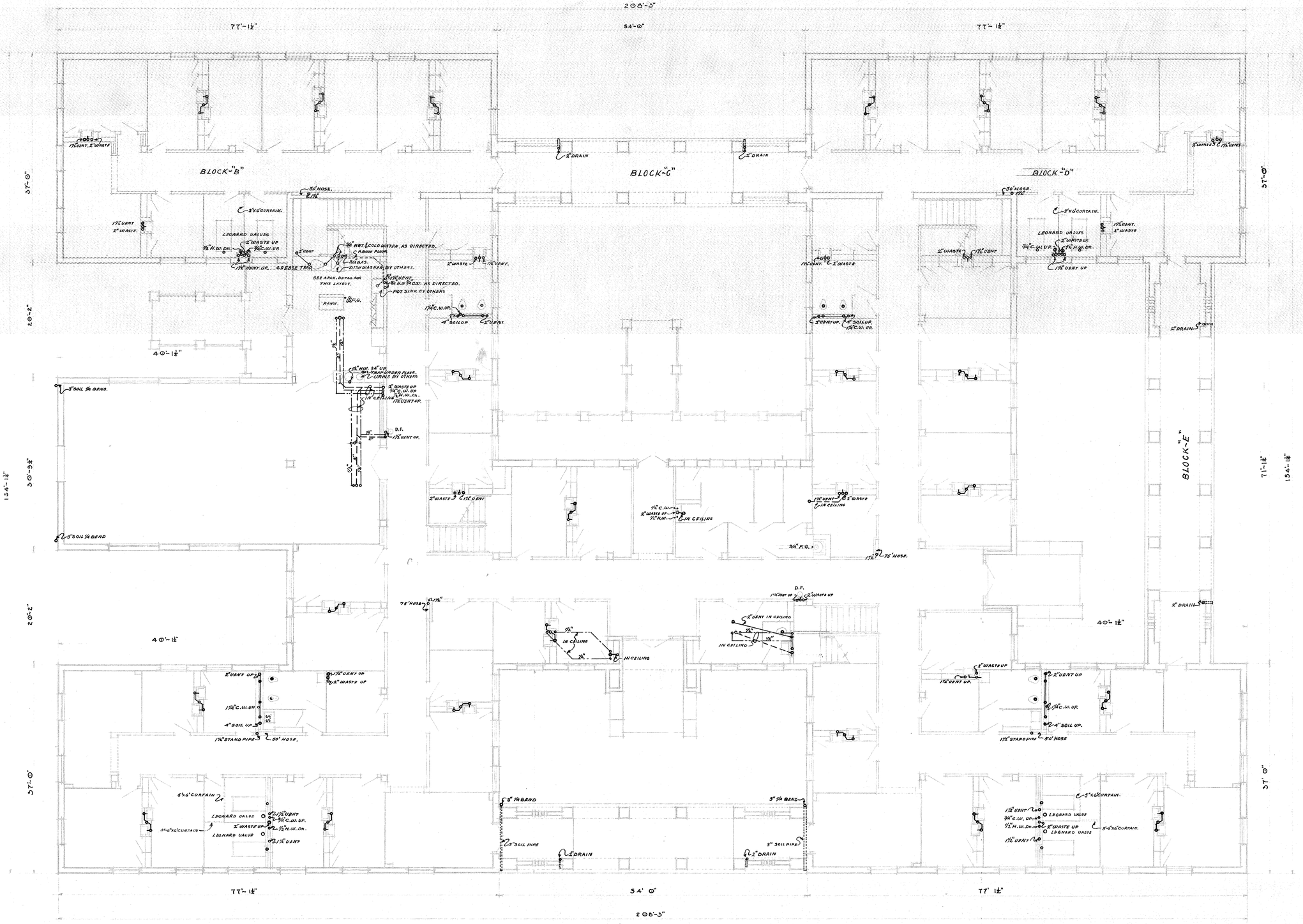
· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·

· DEPARTMENT · OF · THE · COUNTY · ARCHITECT ·
COUNTY OF LOS ANGELES
COUNTY ARCHITECT
W. H. Holland
SUPERINTENDENT IN CHARGE
SUPERVISOR IN CHARGE OF CONSTRUCTION

SHEET NO. P-1
DATE 5-21-28 1928

57

RLA 130.10

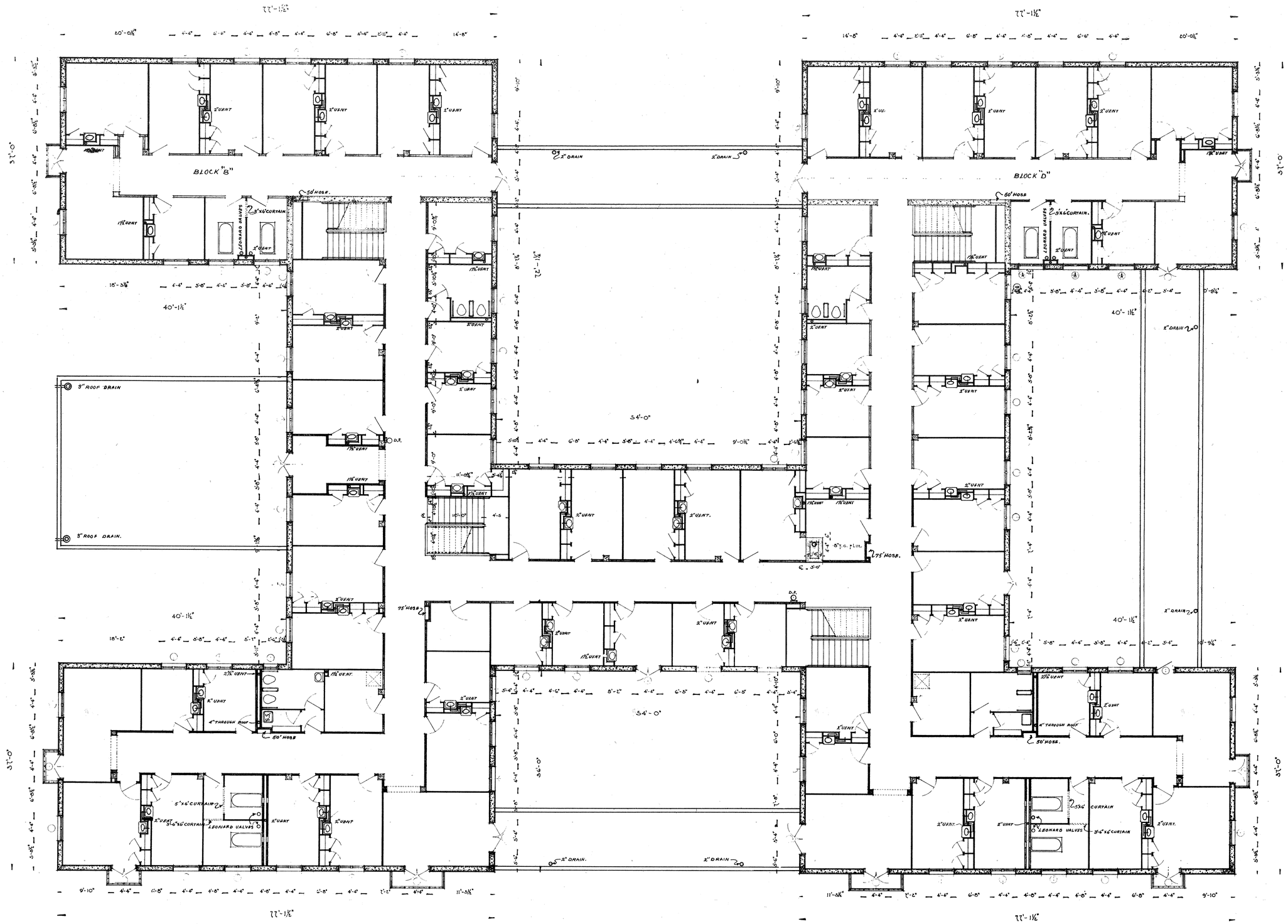


NOTE- SEE DETAIL FOR TYPICAL DOUBLE LAVATORY LAYOUT-.

· FIRST · FLOOR · PLUMBING · PLAN ·		
JOB NO. 2928	· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·	SHEET NO. P-2
DRAWN BY · E·E·S ·	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	DATE 5-21-28 1928
TRACED BY · E·E·S ·	Karl W. Muck COUNTY ARCHITECT	
CHECKED BY · E·E·S ·	W. H. Holland SUPERINTENDENT IN CHARGE	SUPERVISOR IN CHARGE OF CONSTRUCTION

58

RCA 130.10

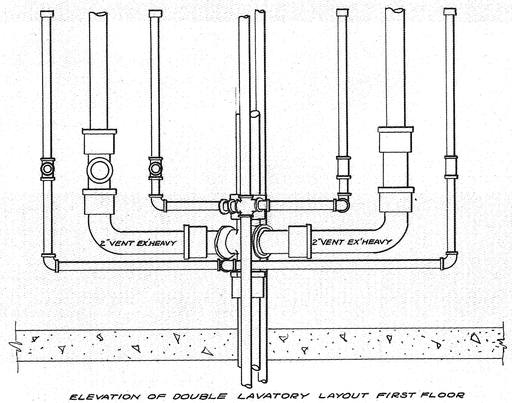


NOTE — WASTE ARMS TO LAVATORIES ON THIS FLOOR SHALL BE SCREWED PIPE AND DRAINAGE FITTINGS. THE PIPES TO BE GALVANIZED WROUGHT IRON AND THE FITTINGS LONG SWEEP.

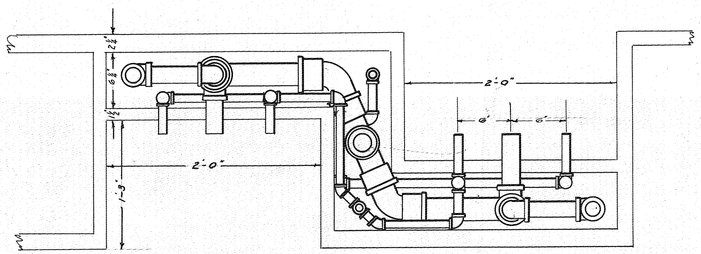
SECOND FLOOR PLUMBING PLAN

JOB NO. 2928	WOMENS WARD BUILDING AT LOS ANGELES COUNTY FARM	SHEET NO. P-3
DESIGN BY E.E.S.	DEPARTMENT OF THE COUNTY ARCHITECT COUNTY OF LOS ANGELES	DATE 5-21-28 1928
TRACED BY E.E.S.	Roland W. Veitch COUNTY ARCHITECT	
CHECKED BY E.E.S.	W. W. Holland SUPERINTENDENT IN CHARGE	SUPERVISOR IN CHARGE OF CONSTRUCTION

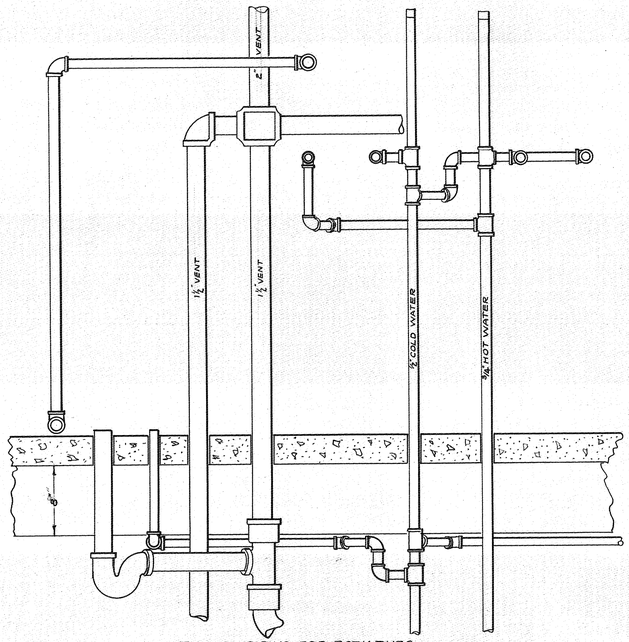
130.10



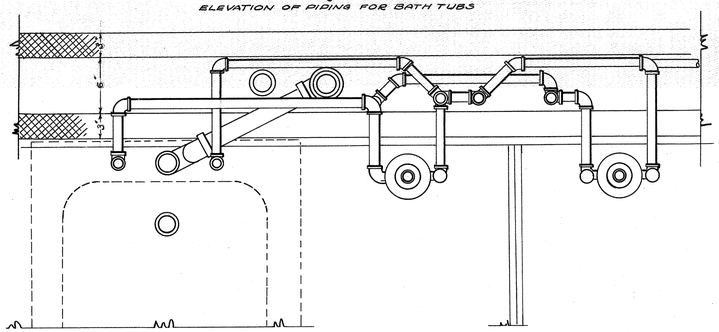
ELEVATION OF DOUBLE LAVATORY LAYOUT FIRST FLOOR
SCALE - 1½" = 1'-0"



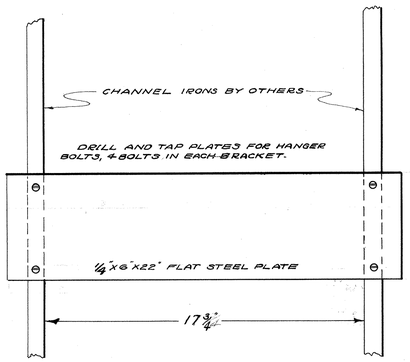
PLAN OF LAVATORY LAYOUT, TYPICAL, FIRST FLOOR.
SCALE - 1½" = 1'-0"

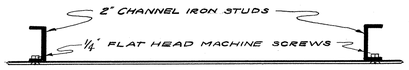


ELEVATION OF PIPING FOR BATH TUBS

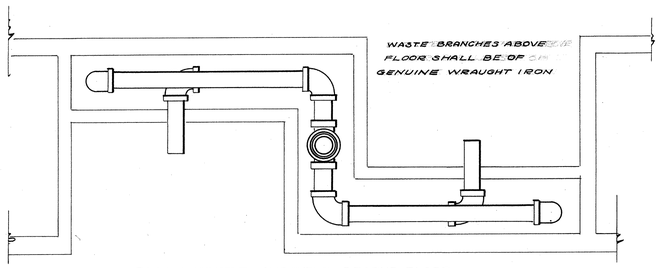


PLAN OF PIPING FOR BATH TUBS.



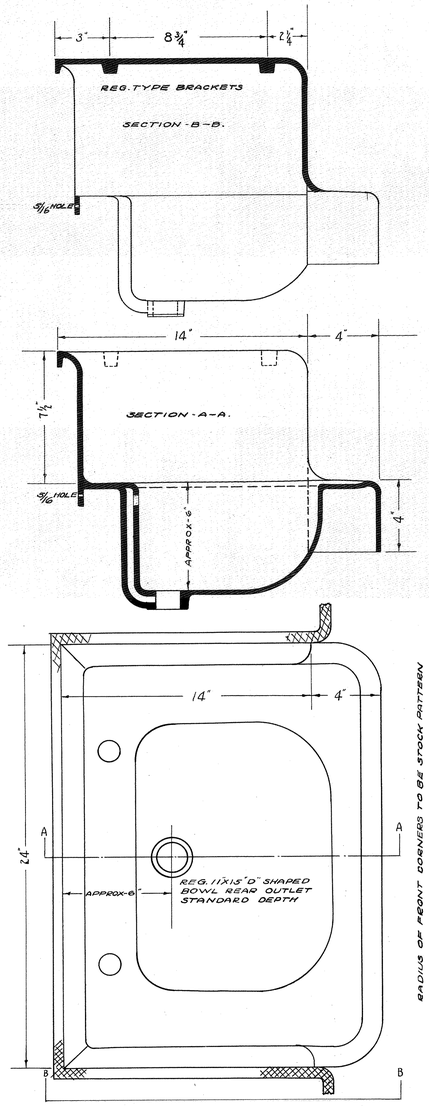


BACKING FOR LAVATORIES ON
METAL LATH PARTITIONS
SCALE 3" = 1'-0"



PLAN OF WASTE AND VENT, SECOND FLOOR.

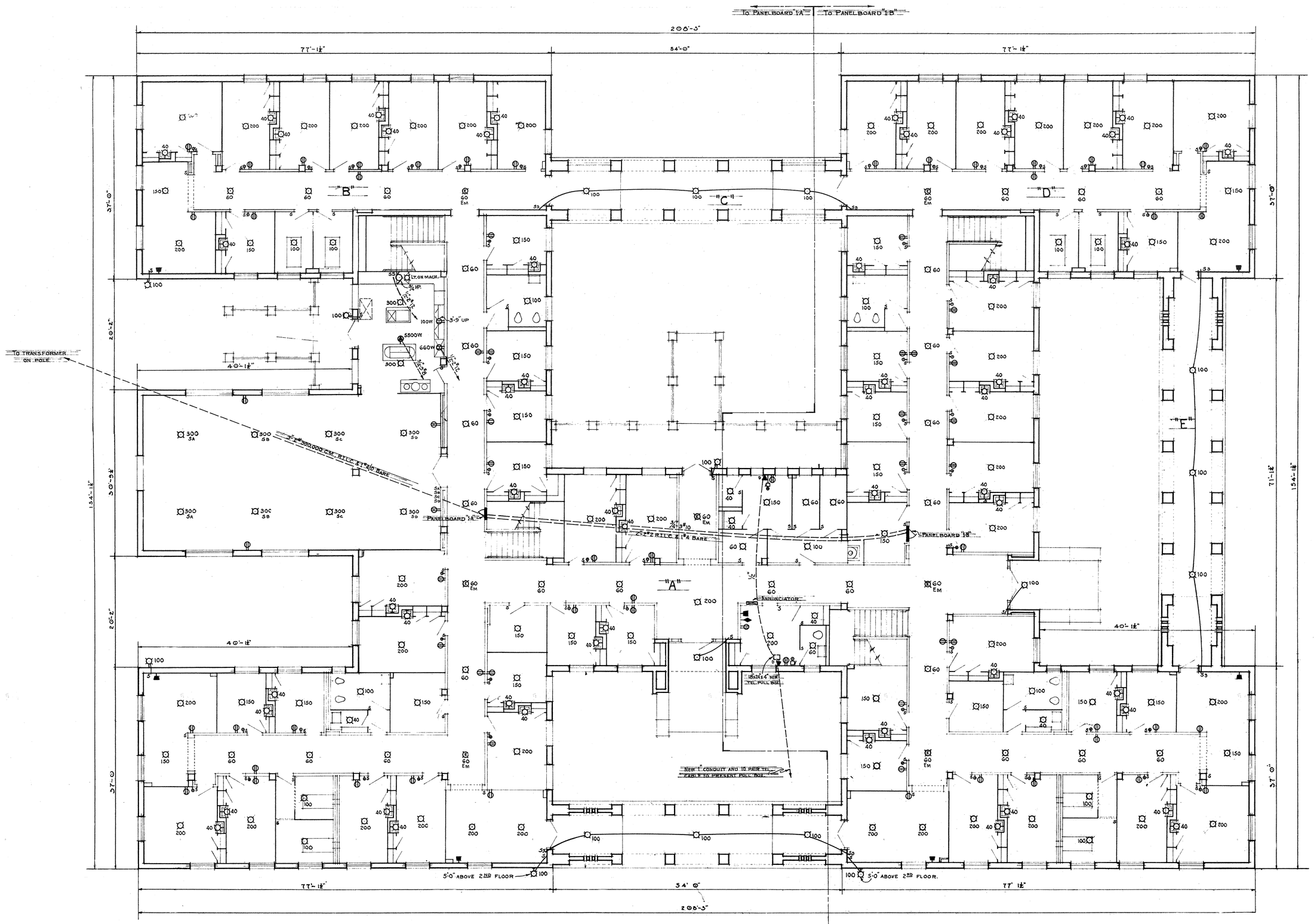
SPECIAL RECESS LAVATORY
FOR ESTIMATING ONLY
SCALE - 3" = 1'-0".



RADIUS OF FRONT CORNERS TO BE STOCK PATTERN

JOB NO. 2928	· PLUMBING · DETAILS ·	SHEET NO. P-4
DRAWN BY · E·E·S ·	· WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·	DATE 5-21-28 1928
TRACED BY · L·F·B ·	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	
CHECKED BY · E·E·S ·	Karl W. Muck COUNTY ARCHITECT	
	W. H. Holland SUPERINTENDENT IN CHARGE	SUPERVISOR IN CHARGE OF CONSTRUCTION

130.10



Symbols

- Ceiling Outlet
- Bracket Outlet
- Convenience Outlet
- Special Outlet
- Push Button Outlet
- Local Switch, Single Pole
- Local Switch, Three Pole
- Motor Outlet
- Annunciator
- Panelboard
- Telephone Outlet
- Radio Speaker Outlet
- Radio Ground & Aerial
- Push Button & Buzzer

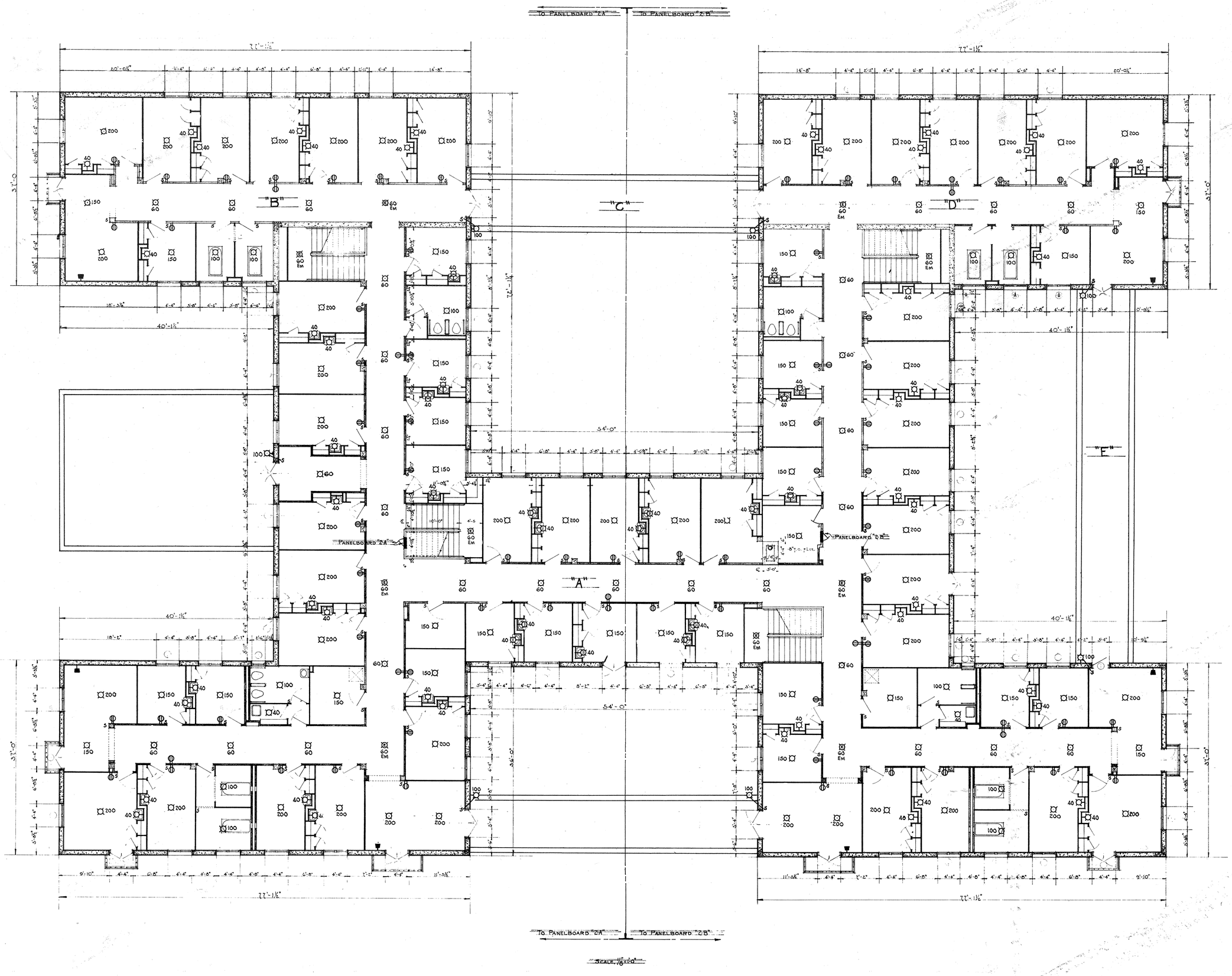
Scale 1/8" = 1'-0"

FIRST · FLOOR · ELECTRICAL · PLAN ·

JOB NO. 2928	WOMENS · WARD · BUILDING · AT · LOS · ANGELES · COUNTY · FARM ·	SHEET NO. E-1
DRAWN BY · S · B · B ·	· DEPARTMENT · OF · THE · COUNTY · ARCHITECT · COUNTY OF LOS ANGELES	DATE 5-21-28 1928
TRACED BY · S · B · B ·	Karl W. Muck COUNTY ARCHITECT	
CHECKED BY W · C · P ·	W. H. Holland SUPERINTENDENT IN CHARGE — SUPERVISOR IN CHARGE OF CONSTRUCTION	

(13)

130.10



JOB NO. 2928	·SECOND·FLOOR·ELECTRICAL·PLAN· ·WOMENS·WARD·BUILDING· ·AT· ·ANGELES·COUNTY·FARM·	SHEET NO. E-2
DRAWN BY ·S·B·B· TRACED BY ·S·B·B· CHECKED BY ·W·C·P	·L ·T ·TMENT·OF·THE·COUNTY·ARCHITECT· COUNTY OF LOS ANGELES Karl M. Muck CO ARCHITECT Hallan ERIN ENT	DATE 5-21-28 1928

62

130.10

MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

RANCHO LOS AMIGOS, SOUTH CAMPUS
Casa Consuelo (LACO No. 1238)
August 16, 2017

HISTORIC RESOURCES GROUP
12 S. Fair Oaks Avenue, Suite 200, Pasadena, CA 91105-1915
Telephone 626 793 2400, Facsimile 626 793 2401
historicla.com

LOS ANGELES COUNTY POOR FARM, CASA CONSUELO
(Rancho Los Amigos, Los Angeles County Building No. 1238)
(Rancho Los Amigos National Rehabilitation Center)
(Rancho Los Amigos Medical Center)
7601 Imperial Highway
Downey
Los Angeles County
California

HABS CA-2800-AM
HABS CA-2800-AM

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

FIELD RECORDS

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

HISTORIC AMERICAN BUILDINGS SURVEY

LOS ANGELES COUNTY POOR FARM, CASA CONSUELO
(Rancho Los Amigos, Los Angeles Building No. 1238)
Rancho Los Amigos Medical Center

HABS No. CA-2800-AM

Location: 7601 Imperial Highway, directly north of Consuelo Street at the intersection of Consuelo Street and Dahlia Avenue. Casa Consuelo faces south onto Consuelo Street.

U.S. Geological Survey Los Angeles Quadrangle, Universal Transverse Mercator Coordinates: 3754166 N; 392719.3 E

Present Owner / Occupant: County of Los Angeles

Present Use: Vacant

Significance: Casa Consuelo is significant under National Register of Historic Places Criterion A for its association with events that have made a significant contribution to the broad patterns of history and Criterion C for its embodiment of the distinctive characteristics of a type, period, or method of construction. Located on what is now known as the Rancho Los Amigos South Campus, the historic district portrays the establishment of the County Poor Farm at this location in 1887, its transition into a facility for long-term indigent medical care between the two world wars, and its emergence as a medical and rehabilitation center in the early post–World War II years. The building was erected in 1930 as the second women's ward at the County Poor Farm. The original 1897 Women's Ward, located on the northeast corner of Consuelo Street and Main Drive, was converted to house ambulatory men and later demolished. Casa Consuelo was named at its opening in 1930 and was reportedly partially designed by Superintendent William R. Harriman's wife, Elinor. The Spanish Colonial Revival building housed 200 women patients and was planned so that each room had an outside balcony or window. Casa Consuelo provided a private and separate area for the women patients of the Poor Farm in a setting more conducive to their needs and comfort. The building served in this capacity until it was converted to office and storage space. It is currently abandoned.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: 1930[1]

2. Architect: Karl W. Muck, County Architect, Department of the County Architect

[1] According to historic aerial photographs and Fliedner, Colleen Adair. 1990. *Centennial, Rancho Los Amigos Medical Center, 1888–1988*. Downey, CA: Rancho Los Amigos Medical Center.

3. **Original and subsequent owners:** County of Los Angeles (1887/1888–present)

4. **Original and subsequent occupants:** County of Los Angeles (1887/1888–present)

5. **Builder, contractor, suppliers:** County of Los Angeles Mechanical Department

6. **Original plans and construction:** An incomplete set of original architectural drawings for Casa Consuelo are on file with the County of Los Angeles.

7. **Alterations and additions:** Alterations to Casa Consuelo are minor, and the building reflects its period of construction. Alterations were identified through observation and comparison with historic photographs and include the replacement of original wood-framed casement windows with metal-framed casement and sliding windows and the replacement of original wood doors with metal doors on the north and west elevations.

B. Historic Context:

Casa Consuelo

Begun in 1887/1888 as the new County Poor Farm, Rancho Los Amigos upon its inception was a rehabilitation facility that provided work, housing, and medical care to the indigent. The original purchase of 124.4 acres in the vicinity of the town of Downey, founded in 1873, was graded for roads, supplied with water from an artesian well, and improved with a Refectory Building (dining hall), the North and South Wards, an aviary, and an Office Building by 1889. During the following decade, barns and ancillary buildings with agricultural functions, a freight and passenger railroad depot, a combined bathhouse and laundry facility, and an additional ward were added.

By the 1890s, the County Poor Farm's livestock and agricultural operations were self-sufficient. The County Poor Farm had a herd of nearly 100 Jersey and Holstein cows, which provided a daily output of 200 gallons of milk. For eggs, the farm relied upon its productive, 800-chicken poultry farm located east of Erickson Avenue and north of Gardendale Street. East of the poultry yard was a hog farm, which supported approximately 150 Berkshire and Poland hogs. Sheep were raised and used for their wool. Percheron draft horses were kept to assist with heavy labor tasks. A wide range of crops were grown at the County Poor Farm, including fruits such as strawberries, peaches, and pears, and vegetables such as cabbage, corn, celery, onions, radishes, sugar beets, peas, cucumbers, and olives. With the assistance of farm supervisors, able-bodied patients helped work the fields and orchards, for which they received compensation of $1.50 per day. Irrigation was provided primarily by the farm's artesian well. Water from the well was pumped using a 10-horsepower engine and stored in a water tower.[2]

[2] Fliedner, Colleen Adair. 1990. *Centennial, Rancho Los Amigos Medical Center, 1888–1988*. Downey, CA: Rancho Los Amigos Medical Center.

The County Poor Farm grew into a nationally recognized institution in the fields of cultivation and scientific breeding as a producer of prized crops and livestock. In addition to operating a successful agricultural enterprise, the County Poor Farm gradually expanded its role as a county medical facility. An increasing number of inmates with chronic medical disorders were being admitted to the County Poor Farm during the 1910s, prompting administrators to employ a staff of physicians and nurses to treat them. This surge in patients, and subsequently employees, provided the impetus for the expansion of services and facilities needed, resulting in the construction of a number of buildings at the property. The County Poor Farm's expansion reflected an important shift as the focus of the facility transitioned from rehabilitative care for indigents into a hospital to house long-term invalid patients.

In June 1915, William Ruddy Harriman was appointed the new superintendent at the County Poor Farm in order to reestablish the facility after devastating floods and a hog cholera epidemic in 1914 damaged the property's agricultural enterprises. Harriman promptly moved his family into the new Craftsman residence that had been constructed by the prior County Poor Farm superintendent, Charles C. Manning, at the center of the property. When Harriman took over management responsibilities at the County Poor Farm, the institution was providing care to 500 indigent men and women with a staff of 45. Under Harriman's leadership (1915–1931; 1933–1952), the County Poor Farm's agricultural fields and livestock rebounded and an ambitious plan of improvements, including new and expanded wards, was immediately begun to address the rapidly expanding need for patient accommodations and services. Harriman dramatically improved the property, installing an irrigation system, upgrading the utilities, constructing new buildings, organizing administration duties and developing the property's park-like landscape. These improvements were largely accomplished in the wake of the financial surge following World War I.[3]

The range of improvements Harriman initiated at the County Poor Farm reflects the rapid growth of the facility during the 1920s. New and expanded services included the construction of new on-site housing that was provided for the employees responsible for around-the-clock patient care and attention, patient wards, additions to men's and women's psychopathic buildings, dining room extensions, nurses' dormitories, employee bungalows, a new power plant, and street improvements.

In addition to the physical changes that were implemented under Harriman's leadership, there were also philosophical changes at the County Poor Farm. Harriman subscribed to the idea that the physical condition of an individual could be improved through occupational therapy activities and uplifting surroundings. Harriman's philosophy for self-improvement soon encompassed every activity at the County Poor Farm. He insisted that the patients' needs and comfort be addressed through the development of amenities at the County Poor Farm. Patients were assigned to work on the farm or in the greenhouse, based on their physical capabilities and individual talents. These occupational therapy activities were also intended as physical therapy, by providing the patients with fresh air, sunshine, and independence.[4]

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[3] Fliedner, Colleen Adair. 1990. *Centennial, Rancho Los Amigos Medical Center, 1888–1988*. Downey, CA: Rancho Los Amigos Medical Center.

[4] Fliedner, Colleen Adair. 1990. *Centennial, Rancho Los Amigos Medical Center, 1888–1988*. Downey, CA: Rancho Los Amigos Medical Center.

Throughout the 1920s, as residency continued to increase, Harriman expanded and improved the County Poor Farm's facilities, including a number of large building projects. Understanding the need to house additional patients, Harriman began the construction of four patient wards in 1922, followed by an additional four wards soon after. This project signaled the full-fledged transition of the farm from a rehabilitative care facility for indigents into a hospital to house long-term invalid patients. By 1922, the institution had a staff of approximately 175 employees to care for the needs of the 1,500 ambulatory patients living at the South Campus.[5] By late 1925, an additional five infirmary wards had been constructed. Several substantial buildings continued to be erected through the 1920s. In 1928, the old brick refectory building was razed and replaced with an 850-seat Spanish Colonial Revival Auditorium, which provided much needed diversions to the ailing patients and staff. Movies were screened weekly in the Auditorium, and other musical types of entertainment were offered as well.

By the end of the 1920s, the County Poor Farm comprised an impressive 540 acres of farmland and buildings, with a property value of $2 million. Real estate improvements included three annual crop yields; one mile of paved roads; an additional one and one-fourth miles of decomposing granite roads; miles of sewer mains connected to the county sanitation system; hundreds of acres of new lawns, gardens, and trees; and numerous buildings serving a variety of purposes.[6,7]

During the 1930s, funding opportunities were significantly reduced as a result of the Depression, slowing ongoing expansion efforts. Despite the shortage of funds during the Depression years, the County Poor Farm managed to maintain all of its existing services and features, including its landscaping department, thanks to the supply of labor provided by the increasing number of admitted inmates. Improvements during this period primarily consisted of maintenance to existing buildings; nonetheless, several significant buildings were erected. A new ward for women patients, Casa Consuelo (1930), with Spanish Colonial Revival styling, accommodated 188 female patients in bright and cheery rooms, all with an exterior view. Funds for the construction of a recreational facility for patients, Bonita Hall, were allocated prior to the 1929 stock market crash, and Bonita Hall (1932) was one of the few new buildings constructed during the Depression era. One change that required no funding occurred in 1932: the County changed the official name from "County Poor Farm" to "Rancho Los Amigos," which means the Friend's Ranch or Ranch of the Friends. This name change served as public notice of the evolving medical mission of the facility, as well as helping to shed the stigma associated with the title of "Poor Farm."

Prior to the construction of Casa Consuelo, two women's wards, constructed in 1888 and 1897 (both now demolished), were located at the property. Plans for a new women's ward were begun in 1928. Casa Consuelo, considered "truly representative of the best in comfort and convenience

[5] Foster, Henry. 5 October 1959. "History of the Rancho." Los Angeles, CA: University of Southern California Archives. Box 25, Folder 57.

[6] Fliedner, Colleen Adair. 1990. *Centennial, Rancho Los Amigos Medical Center, 1888–1988*. Downey, CA: Rancho Los Amigos Medical Center.

[7] Harriman, William R. "1927–1928 Annual Report for Rancho Los Amigos." Los Angeles, CA: University of Southern California Archives. Box 22, Folder 13.

for a building of this type," was opened in March 1930. The building offered ample light and ventilation, a variety of courtyards, sun porches, and parlors and 11 day rooms for patients' use, which were decorated in a range of styles.[8] Casa Consuelo provided the space necessary to house additional patients during the steady growth of the complex that occurred under Harriman's leadership.

PART II. ARCHITECTURE INFORMATION

A. General Statement:

1. **Architectural character:** Casa Consuelo is a two-story Spanish Colonial Revival style building with an irregular "H-shaped" plan and a low-pitched, gabled roof covered in red-clay tile. The building is composed of a north-south-running H-shaped polygon with projecting east and west wings. Substantially intact, the Casa Consuelo retains most of its character-defining features: asymmetrical plan incorporating courtyards; tiled and gabled roof trimmed with wooden brackets where the eaves overhang and a decoratively carved frieze board where they do not; board form concrete exterior walls with a string molding between stories; arcades detailed with impost moldings and topped by curvilinear parapets; double entrance doors topped by transoms; wrought iron exterior lighting (where extant); and wrought iron balconies supported by corbels and brackets.

2. **Condition of fabric:** The current condition of Casa Consuelo is poor. The building has deteriorated from earthquakes, neglect, and exposure, resulting in its current state of disrepair. Windows and doors have been boarded over.

B. Description of Exterior:

1. **Overall dimensions:** Casa Consuelo is irregularly "H-shaped" in plan and stands two stories. The net interior condition space (interior dimensions exclusive of covered or enclosed exterior spaces) calculates to 36,222 square feet. The building has a gross exterior area of 37,808 square feet and a footprint of 21,320 square feet.[9]

2. **Foundations:** The building sits on a concrete slab foundation.

3. **Walls:** Exterior walls consist of painted board-form concrete. Stringcourses wrap the building between stories.

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[8] Fliedner, Colleen Adair. 1990. *Centennial. Rancho Los Amigos Medical Center, 1888-1988*. Downey, CA: Rancho Los Amigos Medical Center.

[9] Sapphos Environmental, Inc. 15 December 2008. Revised Memorandum for the Record No. 21: Update to the List of Buildings, Structures, and Features of the Rancho Los Amigos Historic District. Project No. 1217–056. Pasadena, CA.

4. **Structural system, framing:** The structural system for Casa Consuelo consists of a gabled roof supported by board-form concrete walls.

5. **Arcade, Balconies, Terraces:** On the north, south, and east elevations, courtyard areas are enclosed by arcades, each topped by a scalloped edge parapet, and each consisting of piers with impost moldings and molded bases.

6. **Openings:**

   a. **Windows:** Fenestration consists of wood-framed, flat-headed single and double casement windows that are similarly arranged on both stories. The window frames are set directly into the window openings and have slightly projecting sills. Some windows have been replaced by modern metal sliding windows.

   b. **Doors:** The primary south entrance, and secondary east entrance, are characterized by an arched opening with double wooden doors, glazed and paneled with sidelights, a transom, and decorative wooden spindles. Additional entrances are located on both the north and west elevations and contain non-original double metal doors. Second-story wood French doors are adorned with projecting balconies with decorative concrete corbels, wrought iron-railings and scrolled brackets**.**

7. **Roof:** The main two-story body of the building is covered by a low-pitched gabled roof, covered in red-clay tile. Carved brackets and a decoratively sawn wooden frieze board mark the eaves. Two flat-roofed truncated towers flank the south elevation arcade and a flat-roof tops the one-story projecting cafeteria wing on the west elevation.

C. **Description of Interior:** The first floor of Casa Consuelo consists of several hallways flanked by a series of patient rooms. A large sitting room is located in the building's eastern portion, and four interior sitting areas have access to either an outdoor terrace or arcade. A terrace occupies the center of the building, and partial-width arcades are located on the north, south, and east elevations of the building. The second floor has a similar arrangement. The second floor has three outdoor courtyards and four roof decks.

D. **Site:**

1. **General setting:** The setting surrounding the Casa Consuelo consists of mature trees, shrubs, and grass, including vestiges of the original Mediterranean landscaping. There are concrete sidewalks surrounding the building on all elevations and concrete driveways adjacent to the north and west elevations.

2. **Orientation:** Casa Consuelo is located at the intersection of Consuelo Street and Dahlia Avenue. The building's primary elevations face east and south, and the majority of the architectural detail is concentrated on these facades.

PART III. SOURCES OF INFORMATION

A. Architectural Drawings:

An incomplete set of original architectural drawings prepared by the County of Los Angeles Mechanical Department is on file with the County of Los Angeles. A set of as-found drawings was prepared for the Historic American Buildings Survey (HABS) documentation in 2007 by Diamond West Engineering, Inc. for the County of Los Angeles.

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C. Likely Sources Not Yet Investigated:

Rancho Los Amigos Foundation

D. Supplemental Material:

Reduced copies of an incomplete set of original architectural drawings

Reduced copies of 2007 as-found drawings

PART IV. PROJECT INFORMATION

HABS documentation for Casa Consuelo was prepared by Sapphos Environmental, Inc. staff from December 2006 to June 2011 on behalf of the County of Los Angeles Chief Executive Office (CEO). The HABS documentation serves as mitigation to comply with the Environmental Impact Report (EIR) for the proposed Campus Plan project. Measured surveys were carried out in 2007 by Ms. Wanda Ostermann of Diamond West Engineering, Inc., Los Angeles, California. Photographs were taken from January 2010 to June 2010 by Mr. David Lee, production manager, Sapphos Environmental, Inc. Part I of the historical report (historic context) was prepared by Ms. Shannon Carmack, senior cultural resources coordinator, Ms. Rebecca Silva, senior cultural resources coordinator, Ms. Deborah Howell-Ardila, senior cultural resources coordinator, Ms. Marlise Fratinardo, senior cultural resources coordinator, and Ms. Laura Carias, cultural resources coordinator, Sapphos Environmental, Inc. Part II of the historical report (architectural information) was prepared by Ms. Rebecca Silva, senior cultural resources coordinator, Ms. Marlise Fratinardo, senior cultural resources coordinator, and Ms. Laura Carias, cultural resources coordinator, Sapphos Environmental, Inc. Ms. Leslie Heumann, manager of cultural resources, Sapphos Environmental, Inc., reviewed the final report and supporting documents and provided research, writing, and project oversight.

Appendix E: Sharon Park, FAIA, Preservation Briefs No. 31, Mothballing Historic Buildings

HISTORIC RESOURCES GROUP
12 S. Fair Oaks Avenue, Suite 200, Pasadena, CA 91105-1915
Telephone 626 793 2400, Facsimile 626 793 2401
historicla.com

Some of the web versions of the Preservation Briefs differ somewhat from the printed versions. Many illustrations are new and in color; Captions are simplified and some complex charts are omitted. To order hard copies of the Briefs, see Printed Publications.

PRESERVATION BRIEFS

31
Mothballing Historic Buildings

Sharon C. Park, AIA

Documentation
Stabilization
Mothballing
Mothballing Checklist
Maintenance Chart
Summary and References
Reading List
Download the PDF

Appropriately mothballed historic building. Photo: NPS files.

When all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism. This process, known as mothballing, can be a necessary and effective means of protecting the building while planning the property's future, or raising money for a preservation, rehabilitation or restoration project. If a vacant property has been declared unsafe by building officials, stabilization and mothballing may be the only way to protect it from demolition.

This building has been successfully mothballed for 10 years because the roof and walls were repaired and structurally stabilized, ventilation louvers added, and the property maintained. Photo: NPS files.

This Preservation Brief focuses on the steps needed to "de-activate" a property for an extended period of time. The project team will usually consist of an architect, historian, preservation specialist, sometimes a structural engineer, and a contractor. Mothballing should not be done without careful planning to ensure that needed physical repairs are made prior to securing the building. The steps discussed in this Brief can protect buildings for periods of up to ten years; long-term success will also depend on continued, although somewhat limited, monitoring and maintenance. For all but the simplest projects, hiring a team of preservation specialists is recommended to assess the specific needs of the structure and to develop an effective mothballing program.

A vacant historic building cannot survive indefinitely in a boarded-up condition, and so even marginal interim uses where there is regular activity and monitoring, such as a caretaker residence or non-flammable storage, are generally preferable to mothballing. In a few limited cases when the vacant building is in good condition and in a location where it can be watched and checked regularly, closing and locking the door, setting heat levels at just above freezing, and securing the windows may provide sufficient protection for a period of a few years.

But if long-term mothballing is the only remaining option, it must be done properly. This will require stabilization of the exterior, properly designed security protection, generally some form of interior ventilation—either through mechanical or natural air exchange systems—and continued maintenance and surveillance monitoring.

Boarding up without adequate ventilation and maintenance has accelerated deterioration of this property. Photo: NPS files.

Comprehensive mothballing programs are generally expensive and may cost 10% or more of a modest rehabilitation budget. However, the money spent on well-planned protective measures will seem small when amortized over the life of the resource. Regardless of the location and condition of the property or the funding available, the following 9 steps are involved in properly mothballing a building:

Documentation

1. Document the architectural and historical significance of the building.
2. Prepare a condition assessment of the building.

Stabilization

3. Structurally stabilize the building, based on a professional condition assessment.
4. Exterminate or control pests, including termites and rodents.
5. Protect the exterior from moisture penetration.

Mothballing

6. Secure the building and its component features to reduce vandalism or break-ins.
7. Provide adequate ventilation to the interior.
8. Secure or modify utilities and mechanical systems.
9. Develop and implement a maintenance and monitoring plan for protection.

These steps will be discussed in sequence below. Documentation and stabilization are critical components of the process and should not be skipped over. Mothballing measures should not result in permanent damage, and so each treatment should be weighed in terms of its reversibility and its overall benefit.

Documentation

Documenting the historical significance and physical condition of the property will provide information necessary for setting priorities and allocating funds. The project team should be cautious when first entering the structure if it has been vacant or is deteriorated. It may be advisable to shore temporarily areas appearing to be structurally unsound until the condition of the structure can be fully assessed. If pigeon or bat droppings, friable asbestos or other health hazards are present, precautions must be taken to wear the appropriate safety equipment when first inspecting the building. Consideration should be given to hiring a firm specializing in hazardous waste removal if these highly toxic elements are found in the building.

Documenting and Recording the Building

Documenting a building's history is important because evidence of its true age and architectural significance may not be readily evident. The owner should check with the State Historic Preservation Office or local preservation commission for assistance in researching the building. If the building has never been researched for listing in the National Register of Historic Places or other historic registers, then, *at a minimum*, the following should be determined:

- The overall historical significance of the property and dates of construction;
- The chronology of alterations or additions and their approximate dates; and,
- Types of building materials, construction techniques, and any unusual detailing or regional variations of craftsmanship.

Old photographs can be helpful in identifying early or original features that might be hidden under modern materials. On a walk-through, the architect, historian, or preservation specialist should identify the architecturally significant elements of the building, both inside and out.

By understanding the history of the resource, significant elements, even though deteriorated, may be spared the trash pile. For that reason alone, any materials removed from the building or site as part of the stabilization effort should be carefully scrutinized and, if appearing historic, should be photographed, tagged with a number, inventoried, and safely stored, preferably in the building, for later retrieval.

Documenting a building's history and assessing its condition provide information to set priorities for stabilization and repair, prior to mothballing. Photo: NPS files.

A site plan and schematic building floor plans can be used to note important information for use when the building is eventually preserved, restored, or rehabilitated. Each room should be given a number and notations added to the plans regarding the removal of important features to storage or recording physical treatments undertaken as part of the stabilization or repair.

Because a mothballing project may extend over a long period of time, with many different people involved, clear records should be kept and a building file established. Copies of all important data, plans, photographs, and lists of consultants or contractors who have worked on the property should be added to the file as the job progresses. Recording actions taken on the building and identifying where elements that have been removed are stored will be helpful in the future.

The project coordinator should keep the building file updated and give duplicate copies to the owner. A list of emergency numbers, including the number of the key holder, should be kept at the entrance to the building or on a security gate, in a transparent vinyl sleeve.

Preparing a Condition Assessment of the Building

A condition assessment can provide the owner with an accurate overview of the current condition of the property. If the building is deteriorated or if there are significant interior architectural elements that will need special protection during the mothballing years, undertaking a condition assessment is highly recommended, but it need not be exhaustive.

A modified condition assessment, prepared by an architect or preservation specialist, and in some case a structural engineer, will help set priorities for repairs necessary to stabilize the property for both the short and long-term. It will evaluate the age and condition of the following major elements: foundations; structural systems; exterior materials; roofs and gutters; exterior porches and steps; interior finishes; staircases; plumbing, electrical, mechanical systems; special features such as chimneys; and site drainage.

To record existing conditions of the building and site, it will be necessary to clean debris from the building and to remove unwanted or overgrown vegetation to expose foundations. The interior should be emptied of its furnishing (unless provisions are made for mothballing these as well), all debris removed, and the interior swept with a broom. Building materials too deteriorated to repair, or which have come detached, such as moldings, balusters, and decorative plaster, and which can be used to guide later preservation work, should be tagged, labeled and saved.

Buildings seriously damaged by storms or deterioration may need to be braced before architectural evaluations can be made. Photo: John Milner Architects. Photo: NPS files

Photographs or a videotape of the exterior and all interior spaces of the resource will provide an invaluable record of "as is" conditions. If a videotape is made, oral commentary can be provided on the significance of each space and architectural feature. If 35mm photographic prints or slides are made, they should be numbered, dated, and appropriately identified. Photographs should be cross-referenced with the room numbers on the schematic plans. A systematic method for photographing should be developed; for example, photograph each wall in a room and then take a corner shot to get floor and ceiling portions in the picture. Photograph any unusual details as well as examples of each window and door type.

For historic buildings, the great advantage of a condition assessment is that architectural features, both on the exterior as well as the interior, can be rated on a scale of their importance to the integrity and significance of the building. Those features of the highest priority should receive preference when repairs or protection measures are outlined as part of the mothballing process. Potential problems with protecting these features should be identified so that appropriate interim solutions can be selected. For example, if a building has always been heated and if murals, decorative plaster walls, or examples of patterned wall paper are identified as highly significant, then special care should be taken to regulate the interior climate and to monitor it adequately during the mothballing years. This might require retaining electrical service to provide minimal heat in winter, fan exhaust in summer, and humidity controls for the interior.

Loose or detached elements should be identified, tagged and stored, preferably on site. Photo: NPS files

Stabilization

Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or

reinforced; insects and other pests removed and discouraged from returning; and the building protected from moisture damage both by weatherizing the exterior envelope and by handling water run-off on the site. Even if a modified use or caretaker services can eventually be found for the building, the following steps should be addressed.

Structurally Stabilizing the Building

While bracing may have been required to make the building temporarily safe for inspection, the condition assessment may reveal areas of hidden structural damage. Roofs, foundations, walls, interior framing, porches and dormers all have structural components that may need added reinforcement.

Interior bracing which will last the duration of the mothballing will protect weakened structural members. Photo: John Milner Architects.

Structural stabilization by a qualified contractor should be done under the direction of a structural engineer or a preservation specialist to ensure that the added weight of the reinforcement can be sustained by the building and that the new members do not harm historic finishes. Any major vertical post added during the stabilization should be properly supported and, if necessary, taken to the ground and underpinned.

If the building is in a northern climate, then the roof framing must be able to hold substantial snow loads. Bracing the roof at the ridge and mid-points should be considered if sagging is apparent. Likewise, interior framing around stair openings or under long ceiling spans should be investigated. Underpinning or bracing structural piers weakened by poor drainage patterns may be a good precaution as well. Damage caused by insects, moisture, or from other causes should be repaired or reinforced and, if possible, the source of the damage removed. If features such as porches and dormers are so severely deteriorated that they must be removed, they should be documented, photographed, and portions salvaged for storage prior to removal.

If the building is in a southern or humid climate and termites or other insects are a particular problem, the foundation and floor framing should be inspected to ensure that there are no major structural weaknesses. This can usually be done by observation from the crawl space or basement. For those structures where this is not possible, it may be advisable to lift selective floor boards to expose the floor framing. If there is evidence of pest damage, particularly termites, active colonies should be treated and the structural members reinforced or replaced, if necessary.

Controlling Pests

Pests can be numerous and include squirrels, raccoons, bats, mice, rats, snakes, termites, moths, beetles, ants, bees and wasps, pigeons, and other birds. Termites, beetles, and carpenter ants destroy wood. Mice, too, gnaw wood as well as plaster, insulation, and electrical wires. Pigeon and bat droppings not only damage wood finishes but create a serious and sometimes deadly health hazard.

If the property is infested with animals or insects, it is important to get them out and to seal off their access to the building. If necessary, exterminate and remove any nests or hatching colonies. Chimney flues may be closed off with exterior grade plywood caps, properly ventilated, or protected with framed wire screens. Existing vents, grills, and louvers in attics and crawl spaces should be screened with bug mesh or heavy duty wire, depending on the type of pest being controlled. It may be advantageous to have damp or infected wood treated with insecticides (as permitted by each state) or preservatives, such as borate, to slow the rate of deterioration during the time that the building is not in use.

Securing the Exterior Envelope from Moisture Penetration

It is important to protect the exterior envelope from moisture penetration before securing the building. Leaks from deteriorated or damaged roofing, from around windows and doors, or through deteriorated materials, as well as ground moisture from improper site run-off or rising damp at foundations, can cause long-term damage to interior finishes and structural systems. Any serious deficiencies on the exterior, identified in the condition assessment, should be addressed.

Regrading has protected this masonry foundation wall from excessive damp during its 10-year mothballing. Note the attic and basement vents, temporary stairs, and interpretive sign. Photo: NPS files.

To the greatest extent possible, these weatherization efforts should not harm historic materials. The project budget may not allow deteriorated features to be fully repaired or replaced in-kind. Non-historic or modern materials may be used to cover historic surfaces temporarily, but these treatments should not destroy valuable evidence necessary for future preservation work. Temporary modifications should be as visually compatible as possible with the historic building.

Roofs are often the most vulnerable elements on the building exterior and yet in some ways they are the easiest element to stabilize for the long term, if done correctly. "Quick fix" solutions, such as tar patches on slate roofs, should be avoided as they will generally fail within a year or so and may accelerate damage by trapping moisture. They are difficult to undo later

when more permanent repairs are undertaken. Use of a tarpaulin over a leaking roof should be thought of only as a very temporary emergency repair because it is often blown off by the wind in a subsequent storm.

If the existing historic roof needs moderate repairs to make it last an additional ten years, then these repairs should be undertaken as a first priority. Replacing cracked or missing shingles and tiles, securing loose flashing, and reanchoring gutters and downspouts can often be done by a local roofing contractor. If the roof is in poor condition, but the historic materials and configuration are important, a new temporary roof, such as a lightweight aluminum channel system over the existing, might be considered. If the roofing is so deteriorated that it must be replaced and a lightweight aluminum system is not affordable, various inexpensive options might be considered. These include covering the existing deteriorated roof with galvanized corrugated metal roofing panels, or 90 lb. rolled roofing, or a rubberized membrane (refer back to cover photo). These alternatives should leave as much of the historic sheathing and roofing in place as evidence for later preservation treatments.

Urban buildings often need additional protection from unwanted entry and graffiti. This commercial building uses painted plywood panels to cover its glass storefronts. The upper windows on the street sides have been painted to resemble 19th century sash. Photo: NPS files.

For masonry repairs, appropriate preservation approaches are essential. For example, if repointing deteriorated brick chimneys or walls is necessary to prevent serious moisture penetration while the building is mothballed, the mortar should match the historic mortar in composition, color, and tooling. The use of hard portland cement mortars or vapor-impermeable waterproof coatings are not appropriate solutions as they can cause extensive damage and are not reversible treatments.

For wood siding that is deteriorated, repairs necessary to keep out moisture should be made; repainting is generally warranted. Cracks around windows and doors can be beneficial in providing ventilation to the interior and so should only be caulked if needed to keep out bugs and moisture. For very deteriorated wall surfaces on wooden frame structures, it may be necessary to sheathe in plywood panels, but care should be taken to minimize installation damage by planning the location of the nailing or screw patterns or by installing panels over a frame of battens. Generally, however, it is better to repair deteriorated features than to cover them over.

Foundation damage may occur if water does not drain away from the building. Run-off from gutters and downspouts should be directed far away from the foundation wall by using long flexible extender pipes equal in length to twice the depth of the basement or crawl space. If underground drains are susceptible to clogging, it is recommended that the downspouts be disconnected from the drain boot and attached to flexible piping. If gutters and downspouts are in bad condition, replace them with inexpensive aluminum units.

If there are no significant landscape or exposed archeological elements around the foundation, consideration should be given to regrading the site if there is a documented drainage problem. If building up the grade, use a fiber mesh membrane to separate the new soil from the old and slope the new soil 6 to 8 feet (200 cm-266 cm) away from the foundation making sure not to cover up the dampcourse layer or come into contact with skirting boards. To keep vegetation under control, put down a layer of 6 mil black polyethylene sheeting or fiber mesh matting covered with a 2"-4" (5-10 cm.) of washed gravel. If the building suffers a serious rising damp problem, it may be advisable to eliminate the plastic sheeting to avoid trapping ground moisture against foundations.

Mothballing

The actual mothballing effort involves controlling the long-term deterioration of the building while it is unoccupied as well as finding methods to protect it from sudden loss by fire or vandalism. This requires securing the building from unwanted entry, providing adequate ventilation to the interior, and shutting down or modifying existing utilities. Once the building is de-activated or secured, the long-term success will depend on periodic maintenance and surveillance monitoring.

Securing the Building from Vandals, Break-ins, and Natural Disasters

Securing the building from sudden loss is a critical aspect of mothballing. Because historic buildings are irreplaceable, it is vital that vulnerable entry points are sealed. If the building is located where fire and security service is available then it is highly recommended that some form of monitoring or alarm devices be used.

To protect decorative features, such as mantels, lighting fixtures, copper downspouts, iron roof cresting, or stained glass windows from theft or vandalism, it may be advisable to temporarily remove them to a more secure location if they cannot be adequately protected within the structure.

Mothballed buildings are usually boarded up, particularly on the first floor and basement, to protect fragile glass windows from breaking and to reinforce entry points. Infill materials for closing door and window openings include plywood, corrugated panels, metal grates, chain fencing, metal grills, and cinder or cement blocks. The method of installation should not result in the destruction of the opening and all associated sash, doors, and frames should be protected or stored for future reuse.

The first floor openings of this historic building have been filled with cinder blocks and the doors, window sash, and frames removed for safe keeping. The security metal door features heavy duty locks. Photo: NPS files.

Generally exterior doors are reinforced and provided with strong locks, but if weak historic doors would be damaged or disfigured by adding reinforcement or new locks, they may be removed temporarily and replaced with secure modern doors. Alternatively, security gates in an new metal frame can be installed within existing door openings, much like a storm door, leaving the historic door in place. If plywood panels are installed over door openings, they should be screwed in place, as opposed to nailed, to avoid crowbar damage each time the panel is removed. This also reduces pounding vibrations from hammers and eliminates new nail holes each time the panel is replaced.

For windows, the most common security feature is the closure of the openings; this may be achieved with wooden or pre-formed panels or, as needed, with metal sheets or concrete blocks. Plywood panels, properly installed to protect wooden frames and properly ventilated, are the preferred treatment from a preservation standpoint.

This painted trompe l'eoil scene on plywood panels is a neighborhood-friendly device. Photo: NPS files.

There are a number of ways to set insert plywood panels into windows openings to avoid damage to frame and sash. One common method is to bring the upper and lower sash of a double hung unit to the mid-point of the opening and then to install pre-cut plywood panels using long carriage bolts anchored into horizontal wooden bracing, or strong backs, on the inside face of the window. Another means is to build new wooden blocking frames set into deeply recessed openings, for example in an industrial mill or warehouse, and then to affix the plywood panel to the blocking frame. If sash must be removed prior to installing panels, they should be labeled and stored safely within the building.

Plywood panels are usually 1/2"-3/4" (1.25-1.875 cm.) thick and made of exterior grade stock, such as CDX, or marine grade plywood. They should be painted to protect them from delamination and to provide a neater appearance. These panels may be painted to resemble operable windows or treated decoratively. With extra attention to detail, the plywood panels can be trimmed out with muntin strips to give a shadow line simulating multi-lite windows. This level of detail is a good indication that the building is protected and valued by the community.

If the building has shutters simply close the shutters and secure them from the interior. If the building had shutters historically, but they are missing, it may be appropriate to install new shutters, even in a modern material, and secure them in the closed position. Louvered shutters will help with interior ventilation if the sash are propped open behind the shutters.

There is some benefit from keeping windows unboarded if security is not a problem. The building will appear to be occupied, and the natural air leakage around the windows will assist in ventilating the interior. The presence of natural light will also help when periodic inspections are made. Rigid polycarbonate clear storm glazing panels may be placed on the window exterior to protect against glass breakage. Because the sun's ultraviolet rays can cause fading of floor finishes and wall surfaces, filtering pull shades or inexpensive curtains may be options for reducing this type of deterioration for significant interiors. Some acrylic sheeting comes with built-in ultraviolet filters.

A view showing the exterior of the Brearley House, New Jersey, in its mothballed condition Photo: Michael Mills, Ford Farewell Mills Gatsch, Architects.

Securing the building from catastrophic destruction from fire, lightning, or arson will require additional security devices. Lightning rods properly grounded should be a first consideration if the building is in an area susceptible to lightning storms. A high security fence should also be installed if the property cannot be monitored closely. These interventions do not require a power source for operation. Since many buildings will not maintain electrical power, there are some devices available using battery packs, such as intrusion alarms, security lighting, and smoke detectors which through audible horn alarms can alert nearby neighbors. These battery packs must be replaced every 3 months to 2 years, depending on type and use. In combination with a cellular phone, they can also provide some level of direct communication with police and fire departments.

If at all possible, new temporary electric service should be provided to the building. Generally a telephone line is needed as well. A hard wired security system for intrusion and a combination rate-of-rise and smoke detector can send an immediate signal for help directly to the fire department and security service. Depending on whether or not heat will be maintained in the building, the security system should be designed accordingly. Some systems cannot work below 32∞F (0∞C). Exterior lighting set on a timer, photo electric sensor, or a motion/infra-red detection device provides additional security.

Providing Adequate Ventilation to the Interior

Once the exterior has been made weathertight and secure, it is essential to provide adequate air exchange throughout the building. Without adequate air exchange, humidity may rise to unsafe levels, and mold, rot, and insect infestation are likely to thrive. The needs of each historic resource must be individually evaluated because there are so many variables that affect the performance of each interior space once the building has been secured.

A mechanical engineer or a specialist in interior climates should be consulted, particularly for buildings with intact and significant interiors. In some circumstances, providing heat during the winter, even at a minimal 45∞ F (7∞C), and utilizing forced-fan ventilation in summer will be recommended and will require retaining electrical service. For masonry buildings it is often helpful to keep the interior temperature above the spring dew point to avoid damaging condensation. In most buildings it is the need for summer ventilation that outweighs the winter requirements.

This exhaust fan has tamper-proof housing. Photo: Michael Mills, Ford Farewell Mills Gatsch, Architects.

Many old buildings are inherently leaky due to loose-fitting windows and floorboards and the lack of insulation. The level of air exchange needed for each building, however, will vary according to geographic location, the building's construction, and its general size and configuration.

There are four critical climate zones when looking at the type and amount of interior ventilation needed for a closed up building: hot and dry (southwestern states); cold and damp (Pacific northwest and northeastern states); temperate and humid (Mid-Atlantic states, coastal areas); and hot and humid (southern states and the tropics).

Once closed up, a building interior will still be affected by the temperature and humidity of the exterior. Without proper ventilation, moisture from condensation may occur and cause damage by wetting plaster, peeling paint, staining woodwork, warping floors, and in some cases even causing freeze thaw damage to plaster. If moist conditions persist in a property, structural damage can result from rot or returning insects attracted to moist conditions. Poorly mothballed masonry buildings, particularly in damp and humid zones have been so damaged on the interior with just one year of unventilated closure that none of the interior finishes were salvageable when the buildings were rehabilitated.

The absolute minimum air exchange for most mothballed buildings consists of one to four air exchanges every hour; one or two air exchanges per hour in winter and twice that amount in summer. Even this minimal exchange may foster mold and mildew in damp climates, and so monitoring the property during the stabilization period and after the building has been secured will provide useful information on the effectiveness of the ventilation solution.

Portable monitors are used to record temperature and humidity conditions in historic buildings during mothballing. Photo: NPS files.

There is no exact science for how much ventilation should be provided for each building. There are, however, some general rules of thumb. Buildings, such as adobe structures, located in hot and arid climates may need no additional ventilation if they have been well weatherized and no moisture is penetrating the interior. Also frame buildings with natural cracks and fissures for air infiltration may have a natural air exchange rate of 3 or 4 per hour, and so in arid as well as temperate climates may need no additional ventilation once secured. The most difficult buildings to adequately ventilate without resorting to extensive louvering and/or mechanical exhaust fan systems are masonry buildings in humid climates. Even with basement and attic vent grills, a masonry building many not have more than one air exchange an hour. This is generally unacceptable for summer conditions. For these buildings, almost every window opening will need to be fitted out with some type of passive, louvered ventilation.

Depending on the size, plan configuration, and ceiling heights of a building, it is often necessary to have louvered opening equivalent to 5%-10% of the square footage of each floor. For example, in a hot humid climate, a typical 20'x30' (6.1m x 9.1m) brick residence with 600 sq. ft.(55.5 sq.m) of floor space and a typical number of windows, may need 30-60 sq. ft. (2.75sq.m-5.5 sq. m) of louvered openings per floor. With each window measuring 3'x5'(.9m x 1.5 m) or 15 sq. ft. (1.3 sq.m), the equivalent of 2 to 4 windows per floor will need full window louvers.

Small pre-formed louvers set into a plywood panel or small slit-type registers at the base of inset panels generally cannot provide enough ventilation in most moist climates to offset condensation, but this approach is certainly better than no louvers at all. Louvers should be located to give cross ventilation, interior doors should be fixed ajar at least 4" (10cm) to allow air to circulate, and hatches to the attic should be left open.

Monitoring devices which can record internal temperature and humidity levels can be invaluable in determining if the internal climate is remaining stable. These units can be powered by portable battery packs or can be wired into electric service with data downloaded into laptop computers periodically. This can also give long-term information throughout the mothballing years. If it is determined that there are inadequate air exchanges to keep interior moisture levels under control, additional passive ventilation can be increased, or, if there is electric service, mechanical exhaust fans can be installed. One fan in a small to medium sized building can reduce the amount of louvering substantially.

If electric fans are used, study the environmental conditions of each property and determine if the fans should be controlled by thermostats or automatic timers. Humidistats, designed for enclosed climate control systems, generally are difficult to adapt for open mothballing conditions. How the system will draw in or exhaust air is also important. It may be determined that it is best to bring dry air in from the attic or upper levels and force it out through lower basement windows. If the basement is damp, it may be best to zone it from the rest of the building and exhaust its air separately. Additionally, less humid day air is preferred over damper night air, and this can be controlled with a timer switch mounted to the fan.

The type of ventilation should not undermine the security of the building. The most secure installations use custom-made grills well anchored to the window frame, often set in plywood security panels. Some vents are formed using heavy millwork louvers set into existing window openings. For buildings where security is not a primary issue, where the interior is modest, and where there has been no heat for a long time, it may be possible to use lightweight galvanized metal grills in the window openings. A cost effective grill can be made from the expanded metal mesh lath used by plasterers and installed so that the mesh fins shed rainwater to the exterior.

Securing Mechanical Systems and Utilities

At the outset, it is important to determine which utilities and services, such as electrical or telephone lines, are kept and which are cut off. As long as these services will not constitute a fire hazard, it is advisable to retain those which will help protect the property. Since the electrical needs will be limited in a vacant building, it is best to install a new temporary electric line and panel (100 amp) so that all the wiring is new and exposed. This will be much safer for the building, and allows easy access for reading the meter.

Most heating systems are shut down in long term mothballing. For furnaces fueled by oil, there are two choices for dealing with the tank. Either it must be filled to the top with oil to eliminate condensation or it should be drained. If it remains empty for more than a year, it will likely rust and not be reusable. Most tanks are drained if a newer type of system is envisioned when the building is put back into service. Gas systems with open flames should be turned off unless there is regular maintenance and frequent surveillance of the property. Gas lines are shut off by the utility company.

If a hot water radiator system is retained for low levels of heat, it generally must be modified to be a self-contained system and the water supply is capped at the meter. This recirculating system protects the property from extensive damage from burst pipes. Water is replaced with a water/glycol mix and the reserve tank must also be filled with this mixture. This keeps the modified system from freezing, if there is a power failure. If water service is cut off, pipes should be drained. Sewerage systems will require special care as sewer gas is explosive. Either the traps must be filled with glycol or the sewer line should be capped off at the building line.

Developing a Maintenance and Monitoring Plan

While every effort may have been made to stabilize the property and to slow the deterioration of materials, natural disasters, storms, undetected leaks, and unwanted intrusion can still occur. A regular schedule for surveillance, maintenance, and monitoring should be established. The fire and police departments should be notified that the property will be vacant. A walk-through visit to familiarize these officials with the building's location, construction materials, and overall plan may be invaluable if they are called on in the future.

The optimum schedule for surveillance visits to the property will depend on the location of the property and the number of people who can assist with these activities. The more frequent the visits to check the property, the sooner that water leaks or break-ins will be noticed. Also, the more frequently the building is entered, the better the air exchange. By keeping the site clear and the building in good repair, the community will know that the building has not been abandoned. The involvement of neighbors and community groups in caring for the property can ensure its protection from a variety of catastrophic circumstances.

The owner may utilize volunteers and service companies to undertake the work outlined in the maintenance chart. Service companies on a maintenance contract can provide yard, maintenance, and inspection services, and their reports or itemized

bills reflecting work undertaken should be added to update the building file.

Mothballing Checklist

In reviewing mothballing plans, the following checklist may help to ensure that work items are not inadvertently omitted.

Moisture

- Is the roof watertight?
- Do the gutters retain their proper pitch and are they clean?
- Are downspout joints intact?
- Are drains unobstructed?
- Are windows and doors and their frames in good condition?
- Are masonry walls in good condition to seal out moisture?
- Is wood siding in good condition?
- Is site properly graded for water run-off?
- Is vegetation cleared from around the building foundation to avoid trapping moisture?

Pests

- Have nests/pests been removed from the building's interior and eaves?
- Are adequate screens in place to guard against pests?
- Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?
- If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?

Housekeeping

- Have the following been removed from the interior: trash, hazardous materials such as inflammable liquids, poisons, and paints and canned goods that could freeze and burst?
- Is the interior broom-clean?
- Have furnishings been removed to a safe location?
- If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?
- Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?
- Is there a building file?

Security

- Have fire and police departments been notified that the building will be mothballed?
- Are smoke and fire detectors in working order?
- Are the exterior doors and windows securely fastened?
- Are plans in place to monitor the building on a regular basis?
- Are the keys to the building in a secure but accessible location?
- Are the grounds being kept from becoming overgrown?

Utilities

- Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?
- If the building will not remain heated, have water pipes been drained and glycol added?
- If the electricity is to be left on, is the wiring in safe condition?

Ventilation

- Have steps been taken to ensure proper ventilation of the building?
- Have interior doors been left open for ventilation purposes?
- Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?

Maintenance Chart

1-3 months; periodic

- regular drive by surveillance
- check attic during storms if possible
- monthly walk arounds
- check entrances
- check window panes for breakage
- mowing as required
- check for graffiti or vandalism
- enter every 3 months to air out
- check for musty air
- check for moisture damage
- check battery packs and monitoring equipment
- check light bulbs
- check for evidence of pest intrusion

Every 6 months; spring and fall

- site clean-up; pruning and trimming
- gutter and downspout check
- check crawlspace for pests
- clean out storm drains

Every 12 months

- maintenance contract inspections for equipment/utilities
- check roof for loose or missing shingles
- termite and pest inspection/treatment
- exterior materials spot repair and touch up painting
- remove bird droppings or other stains from exterior
- check and update building file

Summary and References

Providing temporary protection and stabilization for vacant historic buildings can arrest deterioration and buy the owner valuable time to raise money for preservation or to find a compatible use for the property. A well planned mothballing project involves documenting the history and condition of the building, stabilizing the structure to slow down its deterioration, and finally, mothballing the structure to secure it. The three highest priorities for a mothballed building are 1) to protect the building from sudden loss, 2) to weatherize and maintain the property to stop moisture penetration, and 3) to control the humidity levels inside once the building has been secured.

While issues regarding mothballing may seem simple, the variables and intricacies of possible solutions make the decision-making process very important. Each building must be individually evaluated prior to mothballing. In addition, a variety of professional services as well as volunteer assistance is needed for careful planning and repair, sensitively designed protection measures, follow-up security surveillance, and cyclical maintenance.

In planning for the future of the building, complete and systematic records must be kept and generous funds allocated for mothballing. This will ensure that the historic property will be in stable condition for its eventual preservation, rehabilitation, or restoration.

Acknowledgements

The author, **Sharon C. Park**, Senior Historical Architect, Heritage Preservation Services Division, National Park Service, would like to acknowledge the assistance of the following individuals in the preparation and review of this publication. H. Ward Jandl served as the technical editor and assisted with producing this Preservation Brief. In addition the following persons have provided invaluable information and illustrations: Ernest A. Conrad, PE; Doug Hicks, NPS Williamsport Preservation Training Center; Thomas C. Taylor, Colonial Williamsburg; Karen Gordon, Seattle Urban Conservation Office; Kevin B. Stoops, Seattle Department of Parks and Recreation; Michael Mills, AIA; Christina Henry, architect, Mary Beth Hirsch, Ohio Historical Society. Thanks also to Heritage Preservation Services Division staff members Michael J. Auer, Anne

E. Grimmer, Kay D. Weeks, Tim Buehner, and Jean Travers, and to the numerous staff members of the NPS Regional offices who submitted comments. All photographs and drawings are by the author unless otherwise noted.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Technical Preservation Services (TPS), National Park Service prepares standards, guidelines, and other educational materials on responsible historic preservation treatments to a broad public.

September 1993

Reading List

Cotton, J. Randall. "Mothballing Buildings." The Old-House Journal. July/August, 1993.

Fisher, Charles E. and Thomas A. Vitanza. "Temporary Window Vents in Unoccupied Historic Buildings." Preservation Tech Note (Windows, No. 10). Washington, DC: National Park Service, 1985.

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Michell, Eleanor. Emergency Repairs for Historic Buildings. London: Butterworth Architecture, 1988.

"Mothballing Vacant Buildings," An Anti-Arson Kit for Preservation and Neighborhood Action. Washington, DC: Federal Emergency Management Agency, 1982.

Solon, Thomas E. "Security Panels for the Foster-Armstrong House." Association for Preservation Technology Bulletin. Vol XVI no. 3 and 4, 1984. (note the design of the panels, but be aware that additional louvering may be needed on other projects).

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Appendix F: **Thomas E. Solon, AIA Emeritus, Security Panels for the Foster-Armstrong House**

HISTORIC RESOURCES GROUP
12 S. Fair Oaks Avenue, Suite 200, Pasadena, CA 91105-1915
Telephone 626 793 2400, Facsimile 626 793 2401
historicla.com

Security Panels for the Foster-Armstrong House
Author(s): Thomas E. Solon
Source: *Bulletin of the Association for Preservation Technology*, Vol. 16, No. 3/4, National Park Service (1984), pp. 70-73
Published by: Association for Preservation Technology International (APT)
Stable URL: http://www.jstor.org/stable/1494042
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SECURITY PANELS FOR THE FOSTER-ARMSTRONG HOUSE

Thomas E. Solon, AIA*

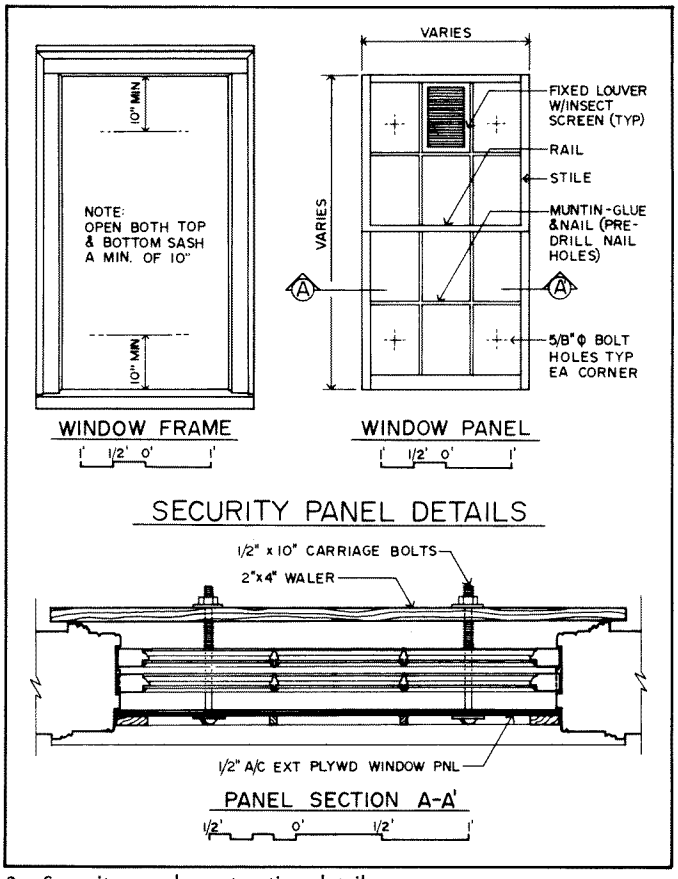
The authorization of the Delaware Water Gap National Recreation Area (DEWA) by Congress in 1965[1] set in motion several years of land acquisition. During these years a multitude of historic structures were placed under the care and protection of the National Park Service. Budgetary constraints did not allow for the immediate restoration and utilization of these historic structures. Therefore, many structures were mothballed until such time as funds became available. Utilities were disconnected and anything from old floor boards to sheets of plywood were nailed directly to the face of door and window frames to "protect" these unused historic structures. The boards would have to be pried off each time a building was entered or when daylight was needed to carry out surveys or interior repairs. Damage was cumulative each time the boards were removed and reinstalled. Indeed, the crowbar proved to be more damaging to historic fabric than the nails.

An even greater negative impact to each building, however, was the effect that the solid covers had on ventilation. Since these unheated structures were unable to breathe, the interior finishes were deteriorating rapidly.

During this period of mothballing, many secured structures were nevertheless vandalized; some were even burned to the ground. And while these atrocities could be directly attributed to the controversial origins of DEWA,[2] there is little doubt that the unattractive manner in which the structures were boarded up was also a contributing factor.

An improved window cover designed to overcome these problems was developed for the historic Foster-Armstrong House[3] when that building was stabilized by the National Park Service in 1982-83.[4] The new security panels would serve to protect the structure until restoration was undertaken in 1984. Intrinsically they were designed to be:

1. Easily removable from the inside.
2. Tamper-proof from the outside.
3. Capable of introducing outside air to ventilate the structure.



2. Security panel construction details.

Thomas E. Solon is a Historical Architect for the Delaware Water Gap National Recreation Area, National Park Service, Bushkill, Pennsylvania.

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1. Foster-Armstrong House, Sussex County, New Jersey (c. 1790-1812), photo taken in 1982 before stabilization. (*photo by author*)

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4. Attractive, giving an impression that the structure is being cared for and that further improvements are forthcoming.

The security panels (Fig. 2) were constructed of 1/2" thick exterior grade plywood, sized to fit into the rabbeted surrounds of the historic window frames (where shutters or storm windows were originally placed). The plywood panel was through-bolted to easily removable horizontal 2 x 4 wood walers located on the interior using 1/2" diameter carriage bolts (Fig. 3). When these bolts are drawn tight, the panels are exceptionally tamper-resistant.[5] Ventilation was introduced using ordinary aluminum gable wall vents with integral louvers and insect screening (the type available at any lumber yard).

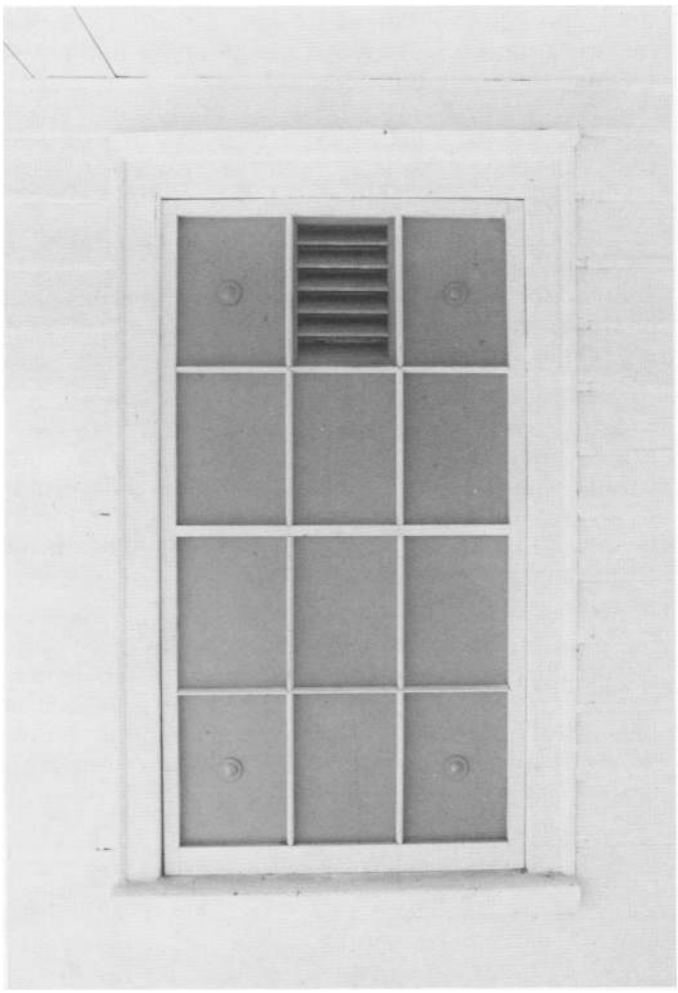
To achieve "attractiveness," the panels could have been painted medium gray. However, the Foster-Armstrong House has high visibility on a heavily traveled highway. In addition, it was going to be offered for lease under the Historic Property Leasing Program.[6] Prospective tenants would have to be awakened to the full potential of this elegant structure which had stood in disrepair for several years. With this in mind, the security panels were fabricated to simulate the historic 6/6 sash (Fig. 4). A trompe d'oeil effect could have been accomplished by painting the panels white, masking out the muntins, stiles and rails and painting the "glass" medium gray, however, the project architects instead applied millwork to the plywood to suggest muntins, stiles and rails, thus giving the covers a three-dimensional appearance (and additional rigidity). The finished panels simulated the original 6/6 sash. The aluminum vent was neatly inserted into the top center "light" of the "upper sash." The overall result was very effective, especially as seen from the highway (Fig. 5).

Admittedly, this was not an inexpensive window cover. And while the millwork could have been simplified or eliminated entirely in favor of a one-dimensional panel, the panels, as constructed were a great success.

The local population took a renewed interest in the Foster-Armstrong House following its stabilization. Having once contemplated constructing a new town hall, they are now negotiating with the National Park Service to lease and adaptively reuse the building.[7]

Future stabilization projects for DEWA structures of less significance or visibility may omit the applied millwork on security panels while retaining the removable and ventilating features. Meanwhile, it is hoped that

3. Interior view of completed panel. (*photo by author*)



4. Exterior view of completed panel. (*photo by author*)

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5. The Foster-Armstrong House after stabilization was completed in 1983. (*photo by author*)

existing surface nailed window covers can at least be retrofitted with aluminum vents and, as funds and manpower become available, secured, using the interior wood waler system.

In conclusion, it must be noted that these are only temporary measures, used to protect and secure structures awaiting future restoration and utilization. As one step of a responsible stabilization program, properly designed security panels will help protect mothballed structures from avoidable demolition by neglect.

Footnotes:

1. This 70,000-acre, 38-mile-long, scenic national recreation area lies along the Pennsylvania and New Jersey banks of the Delaware River. Farm sites and rural villages are located in the relatively unspoiled flatlands along the river. Trails lead to remote scenic natural areas of waterfalls, hidden lakes, and hemlock ravines. The river flows through the famous gap in the Kittatinny Ridge at the southern end of the park.
2. For flood control, the Federal Government had originally intended to dam the Delaware River at Tocks Island, creating a 12,000 acre reservoir. This was to have been a center piece of a 70,000 acre park. While acquiring the land at least 8,000 residents in both states were evicted and more than 3,000 houses, stores, churches and farmhouses were bulldozed or moved. Eventually, as a result of a grassroots protest, the dam project was shelved and in 1978 the area was placed into the Wild and Scenic Rivers system to be preserved in its natural state.
3. The Foster-Armstrong House is located in Sussex County, New Jersey along the Old Mine Road and was built between 1790 and 1812 by Julius Foster, a millwright from Long Island, N.Y. and James Armstrong, a shoemaker from Frankford, New Jersey and is notable for its gambrel roof with bell eaves, a handsomely detailed "Dutch" entrance door crowned by a Federal period transom and a large cooking fireplace in the stone kitchen wing which is flanked by a "beehive" oven protruding to the outside.
4. Stabilization plans and specifications were prepared by Project Architects Ken Bennett and Roger Evans of the Denver Service Center while the construction contract was awarded to the construction firm of LeRoy E. Shoesmith of Cresco, Pennsylvania. Construction was overseen by the author.
5. While the origin of this system is uncertain, it probably evolved from construction detailing of concrete formwork. Note that carriage bolts of lesser diameter would have sufficed. Also, users of these panels have suggested replacing the hex nuts with wing nuts. The panels could then be loosened or tightened without the use of tools.
6. Historic structures are offered for leases by the National Park Service under the Historic Property Leasing Program as authorized by Section 111 of the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by Public Law 96-515.
7. John Bruce Dodd, AIA, Historical Architect at DEWA has prepared plans and specifications for the adaptive restoration. Work began in the fall of 1984.

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E LACO No. 1238 (Casa Consuelo) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Casa Consuelo (LACO 1238)

MGAC

Mothballing Cost Plan — Casa Consuelo (LACO 1238)

			SF	$/SF	TOTAL $ x 1,000
B1	Casa Consuelo (LACO 1238)		37,808	29.23	1,105
TOTAL BUILDING CONSTRUCTION			37,808	29.23	1,105
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**1,105**
Escalation to Midpoint (Jul 2021)		11.7%			129
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			49
	Project Management Consultant Services	2.0%			26
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			13
	Building Permit and Other Agency Fees	1.5%			20
	Owner Contingency/Construction Contingency	10.0%			134
Recommended Budget					***1,476***

MGAC

Mothballing Cost Plan — Casa Consuelo (LACO 1238)

Item Description	Quantity	Unit	Rate	Total
1.) Casa Consuelo (LACO 1238)				
No of floors	***2***	***EA***		
Gross Floor Area	***37,808***	***SF***		
Gross Wall Area	***23,500***	***SF***		
Roof Area	***23,200***	***SF***		
Windows Area	***4,700***	***SF***		
Gross Site Area	***34,400***	***SF***		
Building footprint	***19,400***	***SF***		
Net Site Area	***15,000***	***SF***		
Stabilized structure	37,808	SF	0.50	18,904
Repaint exterior walls	23,500	SF	2.00	47,000
Protect existing openings (exterior doors)	15	EA	800.00	12,000
Install hard protection/boarding to windows	4,700	SF	25.00	117,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	23,500	SF	2.00	47,000
Repair deck as needed, remove existing roofing system including roof sheathing, provide temporary roofing system including drainage	23,200	SF	20.00	464,000
Termites, ants, rodents etc - inspection and allowance for treatment	37,808	SF	1.00	37,808
Install smoke & fire detectors including wiring	37,808	SF	1.00	37,808
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities. Retain power for alarms & communications	1	LS	20,000.00	20,000
Fire extinguishers	13	EA	275.00	3,575
Remove debris and broom clean	37,808	SF	1.00	37,808
Clear site of weeds and overgrown trees	15,000	SF	0.50	7,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**860,403**
Z10 Design Contingency	15.00%			129,060
Z11 General Requirements	3.00%			29,684
Z21 General Conditions	3.00%			30,574
Z22 Bonds & Insurance	1.50%			15,746
Z23 Contractor's Overhead, Profit & Fee	3.75%			39,955
				1,105,423

Feasibility Study Reports for LACO Nos. 1300 and 1302 (Power Plant, Shop, Laundry and Ice Plant)

Individually Eligible Contributor

ESA

A LACO Nos. 1300 and 1302 (Power Plant, Shop, Laundry and Ice Plant) – Architectural Assessment Report

Power Plant/Shop Laundry/Ice Plant (LACO 1300 and 1302)

Primary Individually-Eligible Contributor to Historic District
23,838 s.f.
Built 1925

Building Description

An assemblage of three connected buildings, the Historic Power Plant (LACO No. 1300 and 1302) is located on the northwest corner of Erickson Avenue and Descanso Street. The building is composed of three cubic volumes (1909 Shop, Laundry, Ice Plant, the 1911 Addition, and 1925 Power Plant), which loosely define an L-shaped plan. The 1909 Shop, Laundry, Ice Plant, and 1911 Addition, both one-story in height and designed in the Brick Vernacular style, comprise the longer, western leg of the L-shaped plan. The 1925 Power Plant building, the equivalent of two-stories in height and designed in the Classical Revival style, forms the sorter leg. All three buildings are constructed of brick, which is currently painted. A freestanding concrete chimney rising 140' in height, tapers toward the top and is finished with vertical fluting; constructed in association with the 1925 Power Plant, is located within the courtyard, a Steel Water Tower (LACO No. 1301) is documented on separate inventory form.

Flat roofs hidden by parapets top the 1909 Shop, Laundry, Ice Plant, and 1911 Addition buildings. Steel-framed skylights illuminate the interior of each space. A circa 1933 wooden water-cooling tower sits on the roof of the 1909 Shop, Laundry, Ice Plan building. Both of the parapets and a frieze are defined by a raised and corbelled brick course. Fenestration on these two buildings consist primarily of single and paired, wood-framed, six-over-six, double-hung sash windows. Flat-headed, the windows are set into segmental arched openings, with lintels defined by three rows of header bricks and sills by single rows of raised bricks. The original entries located on the south elevation also have segmented arched heads and contain single and double wood doors topped by transoms. A flat-headed metal roll-up door on the south elevation of the 1909 Shop, Laundry, Ice Plant building does not appear to be original. The secondary north elevation of these two buildings are spanned by an attached canopy that shades a band of windows. On the northwest corner of the building, a non-original steel shed has been attached to the complex.

Symmetry characterizes the Classical Revival style of the 1925 Power Plant with nearly identical three-bay facades facing north and south and thirteen bays spanning the east (Erickson Avenue) elevation. Wrapped by a continuous parapet, the flat roof is bisected by a monitor roof wrapped in a continuous band of steel-framed multi-light windows. The central three bays of the east elevation are given a temple-front treatment, with four raised pilasters carrying the pediment whose tympanum is incised with the year of construction, 1925. Double-door entries are located in the central bays on the east, north, and south elevations. The remaining bays are occupied by large, flat-headed, multi-light industrial sash windows. The west elevation is partially adjoined by the 1909 Shop, Laundry, Ice Plant building; openings on this elevation are limited to four large, steel-framed multi-light windows that appear at the northern end of the wing, an additional window set

high-up at the south end of the wing, and two double doors onto the courtyard. The property is in deteriorated condition.[1]

Statement of Significance

The significance of LACO No. 1300 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

This property was determined eligible for listing in the National Register of Historic Places under Criterion A as a contributor to the Rancho Los Amigos Historic District on September 30, 1996. It is therefore also listed in the California Register of Historical Resources under Criterion 1. The current study confirmed the significance of Historic Power Plant (LACO Nos. 1300 and 1302) as a contributor to the Historic District under Criterion A/1, association with events that have made a significant contribution to the broad patterns of local or regional history. The property is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The buildings were erected from 1909 to 1925 to provide power for the medical and agricultural activities of the Los Angeles County Poor Farm. The original 1909 Shop, Laundry, Ice Plant was an extension of the City of Downey Power Plant and was constructed and opened at the same time. The evolution and expansion of the facility are indicative of the growth of the Los Angeles County Poor Farm over time and its increased need for more self-sustaining power.

Exterior alterations to the buildings are relatively minor. An interpretation of the Brick Vernacular and Classical Revival Styles, the Historic Power Plant retains integrity of location, feeling, association, design, materials, and workmanship. Most of its character-defining features are intact, including: brick construction and architectural trim; flat roofs with encircling parapets; segmental arched openings; Classical Revival treatment of the north, south, and east elevations of the 1925 building; rooftop features including skylights, cooling tower, and monitor; original double-hung and industrial sash windows; original wood doors and transoms (where extant); and freestanding chimney.[2]

---

1 Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Power Plant (LACO No. 1300),* prepared for the County of Los Angeles June 2, 2008.

2 Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, General Ward 30 (LACO No. 1300 & 1301),* prepared for the County of Los Angeles January 8, 2018.

East exterior elevation

Interior Power plant looking north

It is s anticipated that this group of buildings would be re-used for potential office spaces (B Occupancy) or an assembly area (A occupancy) but will not be classified as an essential service building.

Existing Conditions

The existing structure is in general disrepair with observations as follows:

Exterior

Character defining features	
• **Roofing –** The roof is built-up on a concrete roof deck. Water intrusion within the building indicates substantial deterioration throughout. It is understood that the roofing material contains asbestos. All roofing components – including flashing, roof and scuppers (are generally deteriorated and non-functioning).	• **23,838 s.f**
• **Concrete Trim –** At concrete cornice and window sills.	• **1,449 s.f.**
• **Exterior walls** – Brick is currently painted white with a classical 4" cornice and frieze at roof height. Paint is peeling, and masonry and grout joint is in need of patching and re-pointing.	• **18,354 s.f.**
• **Exterior trim** – Plaster frieze and trim shows signs of water intrusion and deteriorating. Flashing on original frieze, stepped pediments have been comprised, and are providing opportunities for water infiltration.	• **2,607 s.f.**
• **Doors and door openings** – Existing doors are industrial flush steel doors that are deteriorated, and/or have been damaged from vandalism. Steel roll-up doors have exceeded life expectancy, and all mechanisms are worn.	• **5 man doors** • **2 over head doors**
• **Windows and window openings** – Existing steel windows are panelized with operable portions that have been rusted shut. Approximately 20% of the window lights are broken, with most of	• **19 windows** • **4,812 s.f.**

the broken lights at the lower portion of the assemblies.	
• **Plaster trim –** Classical Revival ornamentation, triangular and stepped pediments and frieze remain but need further close up evaluation.	• **2,607 s.f.**
• **Parapet –** Parapets are low enough to not require bracing. Rain is conveyed off the roof by way of scuppers not by roof drains and leaders.	• **1,932 s.f.**
• **Site –** Surrounding area is overgrown and un-maintained landscape, site concrete is worn, no salvageable or items of special importance in the area surrounding the building have been noted.	• **20,000 s.f.**

Interior Space

• **The boiler room and the smaller engine rooms are deemed as a character defining features**.	
• **Flooring** – Existing concrete floor has been altered in places with synthetic floor covering, and the concrete has been damaged in selected sections. Part of the concrete floor is sloped along the eastern edge of the Power Plant building which will not be allowable for any pedestrian path of travel.	• **23,838 s.f.**
• **Walls –** Existing masonry walls are partially painted above the steel window assembly in the Power Plant building. Deterioration of grout is visible in selected locations. Interior plaster in the Laundry building is damaged, paint peeling.	

• **Ceiling –** Open steel structure is exposed at Power Plant building at concrete deck and open steel trusses. See structural report for structural condition.	• **23,838 s.f.**
• **Lighting –** Combination of skylight and large steel window panels with strip fluorescent fixtures and bell type fixtures provide over all lighting in the Power Plant, Shop and Laundry buildings.	
• **Mechanical ventilation –** No mechanical ventilation was observed.	
• **Doors –** Most interior doors were missing, and a few remaining doors are in need of repair and upgrade.	

Proposed New upgrades

Exterior

Character-defining features	
• **Roofing –**Total replacement of roof is required. Remove existing roofing and provide new single plywood roofing assembly over minimum 6" rigid insulation, and complete flashing and trim assembly. Provide new roof drains and overflow scuppers. • **Skylights** – There are three existing skylights that will need glazing replaced with laminated glazing and gaskets. Steel frame to be refurbished in place.	• **23,838 s.f.** • **650 s.f. new laminated glazing at existing skylights**
• **Exterior walls –** Remove paint on interior and exterior, epoxy all cracks and voids, repoint masonry grout per Secretary of Interior's Standards. Seal masonry after cleaning and repair.	• **18,344 s.f.**

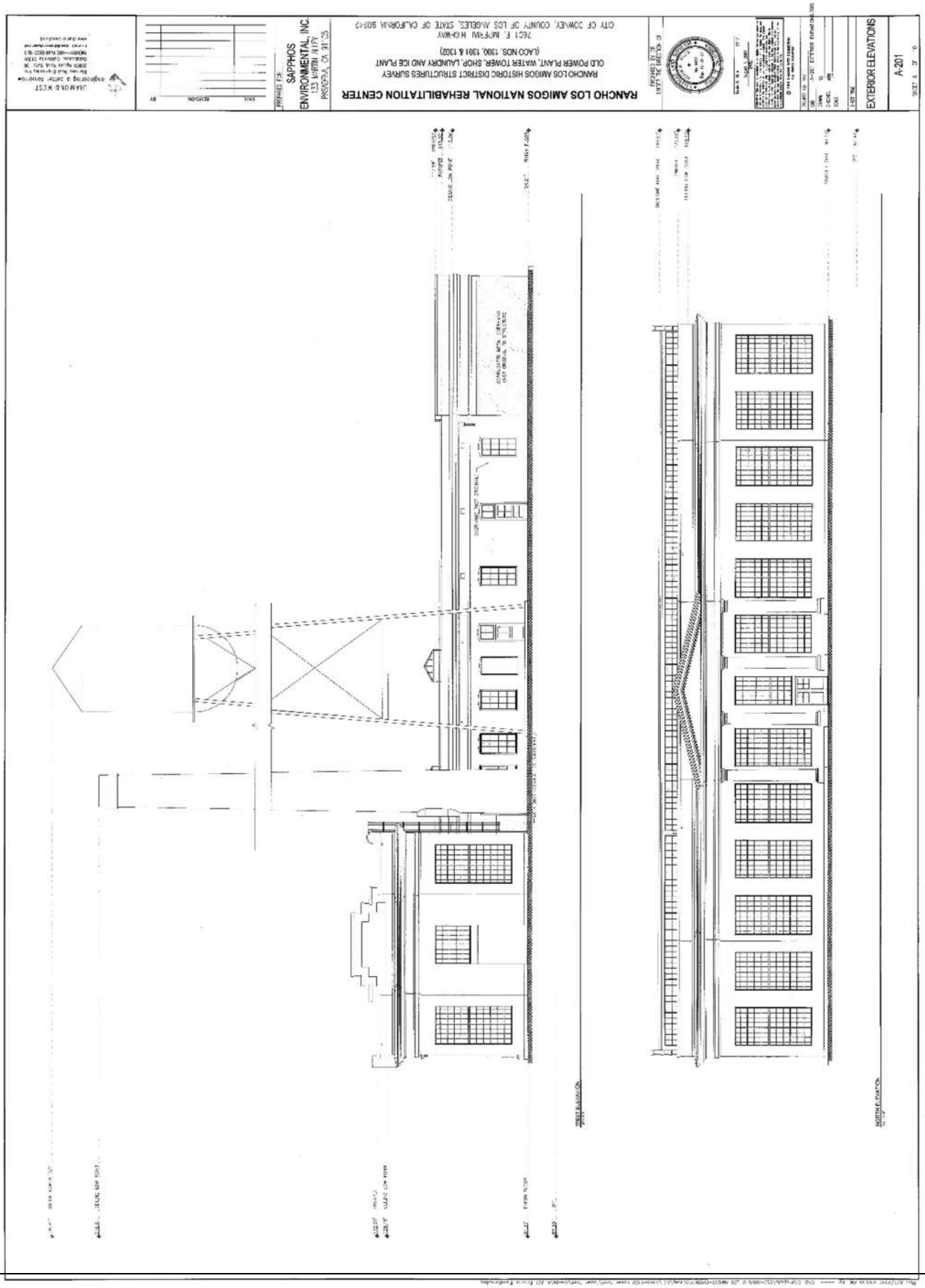
• **Doors and door openings –** Provide new steel doors and frames to match existing.	• **5 max doors** • **2 large glass roll up doors**
• **Windows and window openings –** Strip and remove, restore in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **19 windows** • **4,812 s.f.**
• **Trim –** Remove damaged plaster trim and replace in kind with new exterior lath, plaster, and flashing.	
• **Site –** Remove existing exterior pavement and replace with new 4" thick concrete slab at rear of building and below water tower. Assume new, planting and irrigation, flatwork, exterior lighting and disabled access to structures.	• **12,000 s.f. below water tower and chimney** • **2,000 s.f. Shop courtyard** • **6,000 s.f. street frontage**

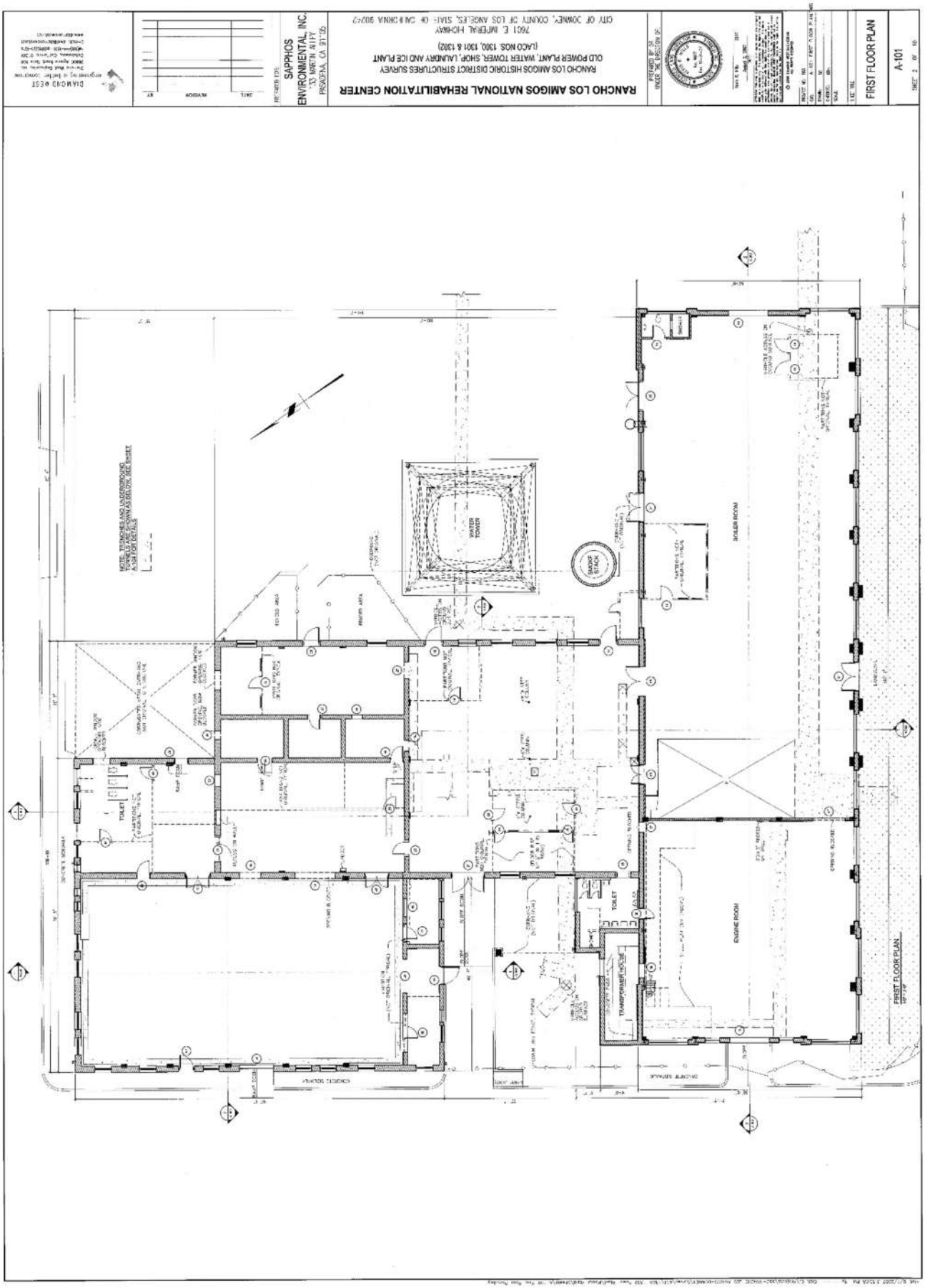
Interior spaces

It is assumed the interior would be adapted to a support either food or support amenity facility for the adjacent office complex which would be an "A" occupancy type. This structure would not have an interior cost allowance except for building infrastructure and restrooms.

• **Flooring** – Remove and replace concrete slab at Power Plant building, clean, acid wash, and repair concrete in Plant Shop and Laundry building.	• **23,838 s.f.**
• **Walls –** Remove paint from masonry, and repair per Secretary of Interior's Standards. Re-point masonry walls and grout per Structural Engineers' recommendations. Remove all damaged plaster in the Laundry and Ice Plant buildings and replace in kind per Secretary of Interior's Standards.	• **20,000 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	

• **Ceiling** – Paint steel trusses in Power Plant building, repair and paint wood truss**,** and framing in Shop and Laundry buildings. See structural report for extent of required structural repairs.	• **23,838 s.f.**
• **Doors –** Repair remaining doors and retain barn type door in Power Plant Repair Shop.	• Repair approximately 12 remaining interior doors
• **Lighting –** Provide new wall washing up lights at perimeter. Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors below trusses and open area per County of LA standards.	
• **Mechanical ventilation –** Provide new 30-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines and capacity for food service.	
• **Electrical** – Provide new 2000 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout.	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
OLD POWER PLANT, WATER TOWER, SHOP, LAUNDRY AND ICE PLANT
(LAOD NOS. 1300, 1301 & 1302)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
PREPARED FOR:
SAPPHOS ENVIRONMENTAL, INC.
133 NORTH ALTA
PASADENA, CA. 91125
EXTERIOR ELEVATIONS
A-201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OLD POWER PLANT, WATER TOWER, SHOP, LAUNDRY AND ICE PLANT
(LACO NOS. 1300, 1301 & 1302)
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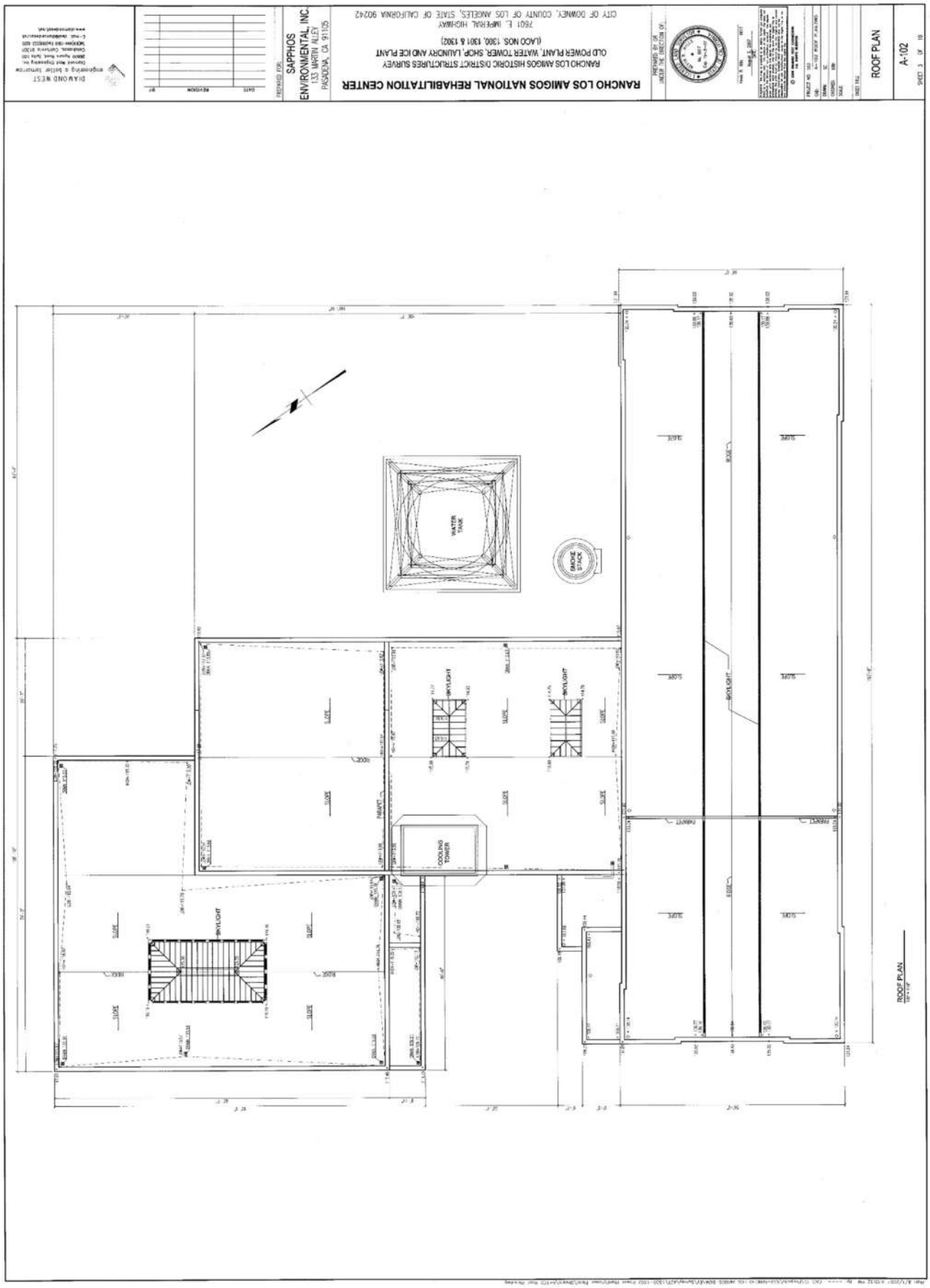
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC.
FIRST FLOOR PLAN
A-101
WATER TOWER
BOILER ROOM
ENGINE ROOM
TOILET
TRANSFORMER HOUSE
FIRST FLOOR PLAN


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
OLD POWER PLANT, WATER TOWER, SHOP, LAUNDRY AND ICE PLANT
(LAOO NOS. 1300, 1301 & 1302)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC.
ROOF PLAN
A-102
WATER TANK
SMOKE STACK
SKYLIGHT
COOLING TOWER
ROOF PLAN

Interior Power Plant

Trusses at Power Plant

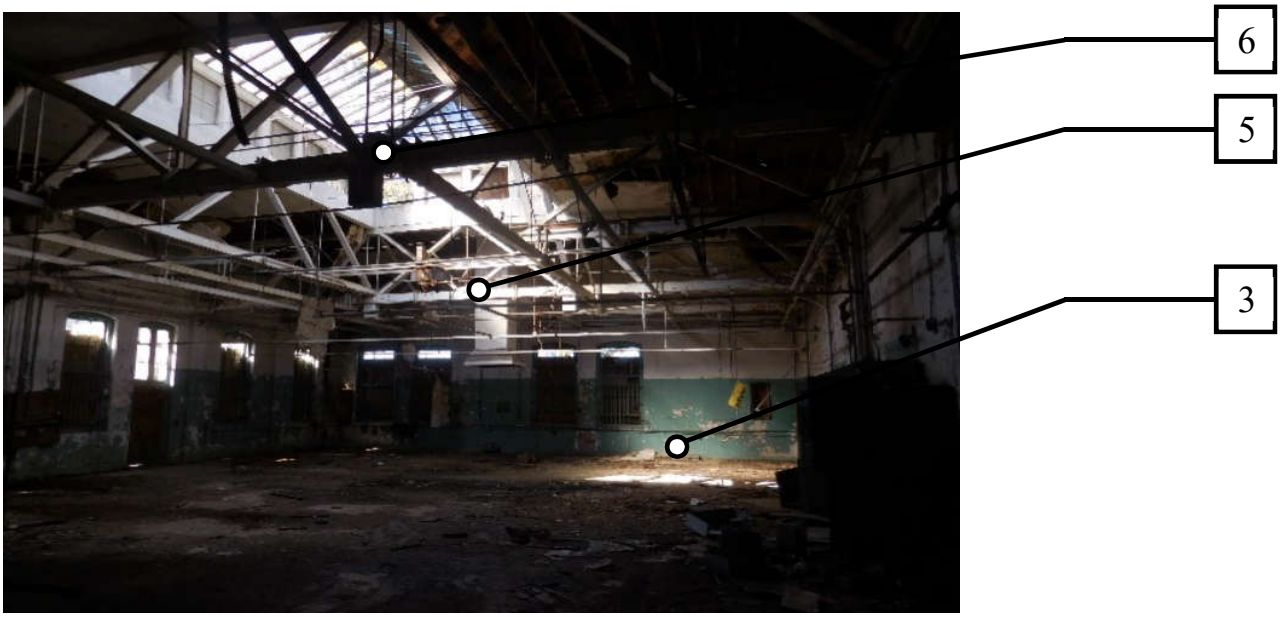
1. Clean masonry, per the NPS's *Preservation Brief #1*.
2. Remove & replace glazing per the NPS's *Preservation Brief #13.* Remove, restore, and reinstall hardware; where not possible to restore hardware due to damage, replace hardware in-kind.
3. Remove all debris, fixtures, & interior walls.
4. Repoint all grout, per NPS's *Preservation Brief #2.*
5. Clean, repair, & repaint wood structure throughout roof.

South Elevation

Interior Brick Wall

1. Clean masonry, per the NPS's *Preservation Brief #1*.
2. Remove & replace glazing per the NPS's *Preservation Brief #13.* Remove, restore, & reinstall hardware; where not possible to restore hardware due to damage, replace hardware in-kind.
3. Remove all debris, fixtures, & interior walls.
4. Repoint all grout, per NPS's *Preservation Brief #2.*
5. Clean, repair, & repaint wood structure throughout roof.

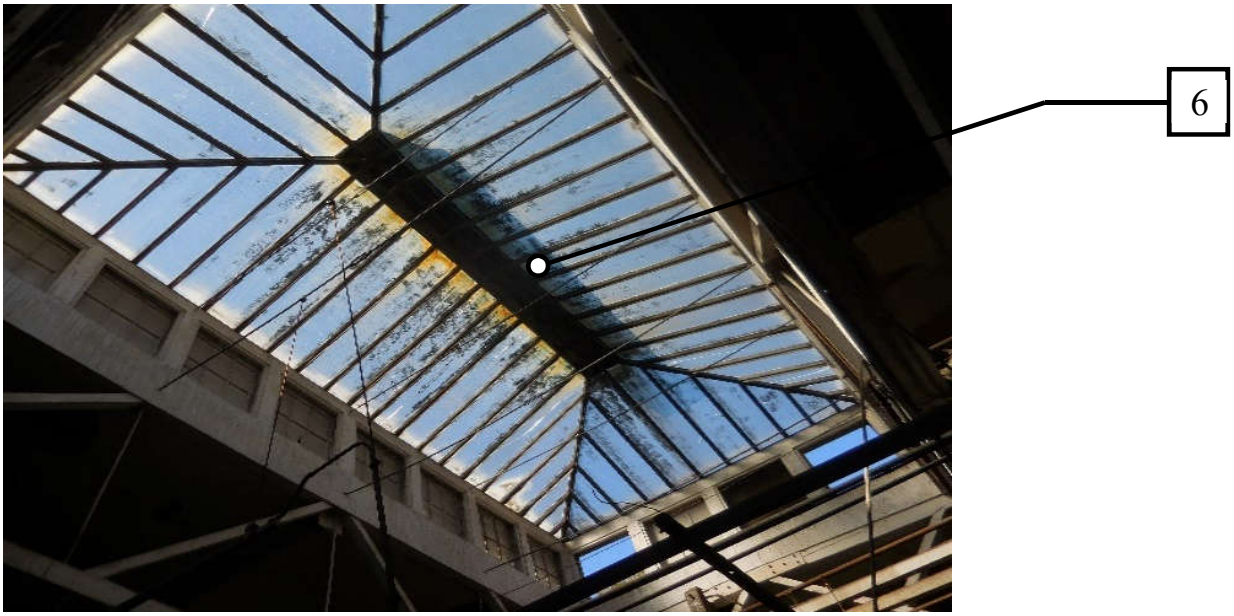
East Elevation



Shop Open Structure

1. Clean masonry, per the NPS's *Preservation Brief #1*.
2. Remove & replace glazing per the NPS's *Preservation Brief #13.* Remove, restore, & install hardware; where not possible to restore hardware due to damage, replace hardware in-kind.
3. Remove all debris, fixtures, & interior walls.
4. Repoint all grout, per NPS's *Preservation Brief #2.*
5. Clean, repair, & repaint wood structure throughout roof.

Engine Room



Shop Skylight

1. Clean masonry, per the NPS's *Preservation Brief #1.*
2. Remove & replace glazing per the NPS's *Preservation Brief #13.* Remove, restore, & reinstall hardware; where not possible to restore hardware due to damage, replace hardware in-kind.
3. Remove all debris, fixtures, & interior walls.
4. Repoint all grout, per NPS's *Preservation Brief #2.*
5. Clean, repair, & repaint wood structure throughout roof.
6. Remove existing glazing & replace with laminated glazing & gaskets. Skylight frame to be restored in place.

B LACO Nos. 1300 and 1302 (Power Plant, Shop, Laundry and Ice Plant) – Structural Assessment Report

Structural Assessment: Power Plant

(LACO NO. 1300)

Summary of Assessment

Constructed in 1925, the Power Plant Building is a single-story unreinforced brick masonry building with a roof height of approximately 35 feet. The roof gravity loads for this building are supported mainly by a system of steel trusses and steel columns. On the east side of the building, the steel columns are encased in masonry pilasters. The masonry has deteriorated, and the mortar has eroded at both the interior and exterior faces of the building, especially in the lower courses. Cracking appears in almost all segments of the walls. The building does not appear to have an adequate lateral-force-resisting system, and the walls appear vulnerable to out-of-plane seismic forces.

Rehabilitation and adaptive reuse of the Power Plant Building, LACO No. 1300, would require significant structural upgrades and seismic retrofit measures. The expected seismic performance of the building in its current condition is poor. The unreinforced masonry walls pose a threat to the building and its occupants during seismically induced strong ground motion. The ability of the masonry walls to safely and reliably support gravity loads also appears questionable. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of the Power Plant Building at a Life Safety Performance Level. A detailed summary of these measures is included in the final section of this report.

Description of the Building

This single-story building has a rectangular footprint of about 10,175 square feet and a roof height of approximately 35 feet. The walls and parapets are 13 inches thick, constructed of two wythes of solid brick. There is also an interior concrete wall that separates the engine room from the boiler room. A reinforced concrete pit is adjacent to this wall. The west wall of this building is the east wall of the Shop, Laundry, and Ice Plant Building. The roof is a 3-inch concrete slab supported by light tapered steel trusses 5 to 6 feet deep, spaced 14 feet on center. These trusses are supported by riveted built-up section steel columns, some of which are encased in the brick assembly of the wall, and concrete transfer beams that are integrated into the brick walls. The continuous concrete wall footing is 2 feet wide by 1.3 feet deep, and the pad footings underneath the columns are 4 feet square by 1.3 feet deep.

Condition Assessment

A visual inspection of the building revealed the poor condition of the masonry walls. As shown in Figure 1 and Figure 2[1], the mortar of the masonry has significantly deteriorated over time. This is most likely due to the lime in the material leaching out following prolonged exposure to moisture and the elements. This deterioration was most noticeable in the lower courses of all the exterior walls of this building. Here, the mortar can be easily scraped away and pulverizes under light pressure. Essentially, the chemical and physical properties of the masonry have been compromised, and the sliding shear capacity of the original bed joint has been significantly reduced. Testing is required to determine how much strength the masonry walls still have, though a significant amount of patching and repair will be needed regardless of testing results.

At the north facade, entire bricks are dislodged from the steel column encasement revealing the poor condition of the mortar and the typical assembly of the column. This mortar is also fragile, indicating a lack of lime in the material. Figure 3 shows this spalling and the absence of bonding between the steel column and the masonry units.

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

In addition, soil settlement and previous earthquakes have caused cracks to spread across the building walls. The stair-stepped cracks shown in Figure 4 are most likely due to differential settlement at the foundations, whereas the horizontal cracks found in the lintel shown in Figure 5 are most likely shear cracks caused by previous earthquakes. Differential settlement cracks occur over long periods of time. Due to the age of these structures, differential settlement should not noticeably increase without a significant increase in building weight. Therefore, these cracks are not expected to grow significantly.

Localized spalling of the masonry bricks, including splitting across the bricks, appears at some columns. The vertical crack in Figure 6 has a width varying from ¼ inch to ½ inch. This crack is probably due to water infiltration, rusting of the columns, and consequent expansion of the metals inside the encasement. In addition, a diagonal stair-stepped settlement crack (not shown) exists on the left side of this column at mid-height.

The concrete transfer girder carrying the steel trusses at the roof is shown in Figure 10. While the condition of the girder appears to be good, its support at the ends appears to be compromised. Several oblique cracks propagate from the corners and suggest that the beam is separating from the masonry.

In the observation and assessment of this building by Coffman Engineers in 2007, the concrete roof slab was found to be in acceptable condition, and no signs of corrosion were discovered for the reinforcement. While the roof was not observed during recent visits, it is assumed that the condition has not changed. The reinforcing steel of the roof slab is likely still well protected. The supporting roof trusses shown in Figure 11 are in good condition and do not show signs of excessive corrosion. The columns show some signs of corrosion but are not structurally compromised. However, the connections throughout the trusses and from the truss to the roof/walls will likely need to be upgraded.

The foundation could not be inspected directly. However, some settlements are assumed to have occurred in localized areas causing the settlement cracks discussed earlier. In addition, it was observed that a segment of the basement foundation in the pit has been removed to provide room for piping. It appears no additional strengthening was provided.

The associated exterior chimney is a tall concrete structure. It appears to have 5½-inch thick walls and consists of concrete segments stacked on top of each other. The structure appears to be in decent condition, but it is expected that the chimney has no reinforcement, which poses a severe safety risk in the case of a seismic event. No structural plans or other sources of information were available at the time of this report to adequately assess its strength and safety. A more detailed analysis would be required, which may involve materials testing and modeling. It is extremely likely that retrofitting would be required. For this structure, there does not appear to be a feasible approach to retrofit the chimney in-situ without impacting its appearance. Any retrofit scheme would likely require changes to the exterior of the chimney and could interfere with the character-defining features of the Power Plant Building as a whole.

Evaluation of Structural Performance

This building does not appear to pose any immediate threat for partial collapse without additional stresses caused by a seismic event. The concrete roof appears to be sufficient to carry the expected gravity forces. The gravity forces transfer through the walls and columns to the foundation. There is cause for concern with the gravity capacity of the walls. The proper compression strut behavior of the infill is not guaranteed due to the absence of longitudinal top reinforcement and the eccentricity of the columns with respect to the brick assembly. Further deterioration of the walls could produce partial collapse, further spalling, or more cracks.

Other gravity stability issues are also evident where the concrete transfer girder is supported by the walls. Although the transfer girder appears to be stable now, if there were a moderate seismic event, a partial collapse of the structure could be expected. One positive attribute of this building's gravity system is that most of the roof is supported by steel

columns to the foundation. This provides a secondary gravity support in most locations if the unreinforced masonry walls were to fail during an earthquake.

Current code standards no longer allow this building type (unreinforced masonry) to be used in new construction due to its poor performance in earthquakes, even when properly detailed and when the masonry is in good condition. This building contains specific deficiencies in the lateral system in addition to the general deficiency due to the building type. There is no direct connection between the edge of the diaphragm and the masonry walls to transfer the seismic forces. In addition, the masonry is not reinforced, the mortar in the masonry has deteriorated, stair-stepped diagonal cracking exists, dislodgement and falling of units has occurred, bed joint cracking has disseminated throughout the walls, and there is no doweling or direct mechanism of force transfer between the walls and the foundation.

The stress quick-check procedure of ASCE 41 reveals that the shear strength of all the masonry walls is most likely below the Life Safety Performance Level. The east-west direction is particularly vulnerable because of the limited length of existing masonry wall. Additional tests would be needed to verify the actual value of the bed joint sliding shear capacity. The capacity would then be compared to the anticipated seismic demand, but in this case, there is the strong perception that the building would be found inadequate for the life safety objective.

The walls also fail the ASCE 41 test for height to thickness ratio ($h/t = 27 > 9$), and a supplemental analysis would be required to assess the capacity of the walls for out-of-plane forces. To resist these out-of-plane forces, the wall should be adequately anchored to the roof diaphragm and the foundation. However, the accentuated slenderness of the wall, the erosion of the mortar, and the absence of a direct connection between the infill and the boundary elements, show that these walls are very vulnerable to severe earthquake damage. During a moderate earthquake, entire panels of the walls could lose support, fall, damage the property, and put at risk the lives of the occupants of the building. All these factors contribute to the building's low global rating of anticipated performance in a seismic event.

Due to the absence of a seismic gap between this building and the adjacent Shop, Laundry, and Ice Building, pounding may occur as the two buildings move independently during a moderate earthquake. This could cause damage, or partial collapse, risking the safety of the building occupants. This potential risk is very difficult to mitigate and would need to be taken into consideration during building/foundation upgrades.

At the time of this report, no information was available regarding the construction of the concrete chimney. During the assumed time of construction, methods of detailing, design, and construction of a reinforced concrete tower would have been inadequate to resist a moderate earthquake. It should be assumed that the chimney does not meet life safety standards and could pose a serious life safety risk of falling in the event of seismic ground shaking anticipated by current code standards.

Summary of Proposed Upgrades

The expected seismic performance of the Power Plant Building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

- Install new steel braced frames to reduce stresses on existing walls. Frames would be required in both the north-south direction and the east-west direction. Some window or door openings may be partially obstructed by frame columns or braces. Additionally, the new braces would interfere with the large, open layout of the building, as columns would be positioned inside the walls (creating a smaller perimeter of open space) and in the center of the building.
- Install new concrete footings beneath the columns of the new brace frames.

- Surface coat the walls with fiber reinforced polymer (FRP) or similar membrane.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. Anchors would need to be drilled into the masonry to properly connect the outside face of the wall to the strongbacks. The interior elevations of the walls would be visually obstructed by a network of steel tube framing. A more detailed structural analysis may determine that either adding FRP or adding strongbacks would be sufficient.
- Additional methods of adding shear strength are included below. However, due to overriding considerations, particularly the goal of maintaining the overall historic appearance and character-defining features of the building, these methods are not suggested.
    - Shotcrete the unreinforced masonry walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. This would affect the appearance of the building, as the brick masonry would be hidden from view where shotcrete is applied. Also, any interior wall-mounted industrial piping may no longer be visible. Before applying shotcrete, anchors would need to be drilled into the masonry to properly connect the outside face of wall to the shotcrete. This approach would improve shear strength as well as out-of-plane strength.
    - Infill a majority of the existing wall openings (windows and doors) with reinforced masonry or concrete. This would severely impact the character-defining features of the building on both the interior and exterior.
- Analyze the transfer girder and its masonry wall support, shown in Figure 10, and provide strengthening if necessary. This may require the addition of shotcrete or steel members, which could be visible on the interior elevation.

Diaphragm

- Install new steel anchors between walls and diaphragm. Anchors would be installed around the entire perimeter of the building. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Analyze the truss-to-column connection at the existing steel framing. Provide strengthening if necessary, which is likely to include adding plates, welds, and/or bolts. Partial demolition and repair may be required.
- Analyze the current diaphragm collectors and ties. Strengthen as needed. Steel framing or braces may need to be added at the clerestory to properly transfer forces from the raised portion of the roof to the main roof diaphragm. This would alter the appearance of the steel truss roof-support system that is identified as a character-defining feature.

General Condition

- Repair and/or replace all deteriorated masonry. Patch and grout any areas where spalling and cracking has occurred.
- Repair the eroded mortar. It is expected that approximately 50% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building would need to be repointed.
- Upgrade the building foundation as needed.
- Anchor and brace all industrial interior piping per current code standards to eliminate falling hazards. This would alter the appearance of the industrial interior piping that is identified as a character-defining feature.
- Evaluate the weight of the existing roof system before selecting and installing a new roof system. If the intended new roof system is heavier than the existing, the roof framing and trusses would need to be analyzed. The current structure may not be able to support a heavier roof.
- New ductwork and electrical conduit will require new openings in the walls and/or roof; strengthening of the structure at these openings would likely be required.
- For the assumed insufficient strength of the exterior concrete chimney, one or a combination of the following methods is recommended. For this structure there does not appear to be a feasible approach to retrofit the

chimney in-place without impacting its appearance. All retrofit methods would likely affect the exterior of the chimney and could interfere with the character-defining features of the power plant as a whole.

- Completely replace the chimney structure with a similar, properly reinforced chimney.
- Provide steel strongbacks to the exterior of the chimney as needed, following analysis.
- Provide a steel brace at the top of the chimney to increase lateral stability and decrease potential risk and damage in the case of failure.
- Install FRP on portions or the entire chimney, as needed, following analysis.
- Increase size and depth of existing foundation to prevent overturning, if needed, following analysis.

Figure 1: Typical Brick Walls

Figure 2: Typical Mortar Deterioration

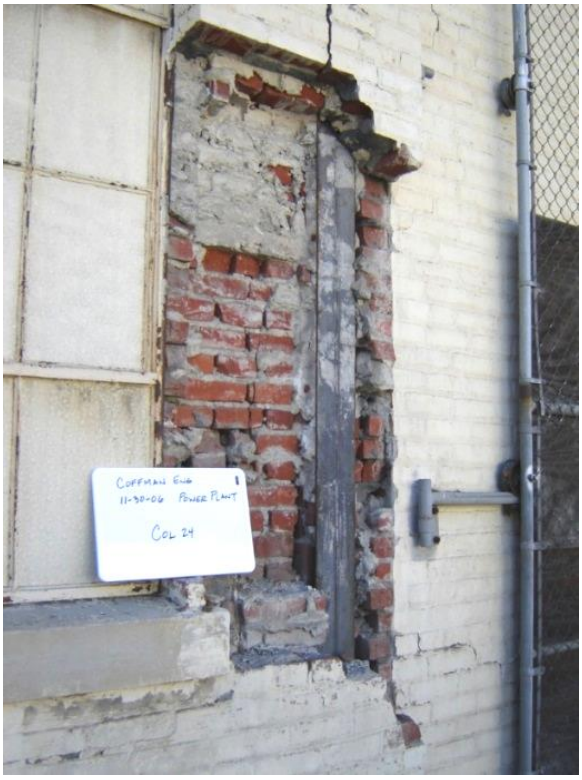


Figure 3: Spalling of brick, exposing column encasement

Figure 4: Typical stair-stepped cracking in walls

Figure 5: Example of horizontal shear crack

Figure 6: Vertical cracking of column encasement

Figure 7: Damaged roof

Figure 8: Spalling at building corner

Figure 9: Vertical cracking of masonry

Figure 10: Cracking at end of concrete transfer girder

Figure 11: Steel roof trusses

Structural Assessment: Shop, Laundry, Ice Plant
(LACO NO. 1302)

Summary of Assessment

The Shop, Laundry, and Ice Plant Building, LACO No. 1302, is an irregular single-story building with a footprint of approximately 12,738 square feet and was constructed in two phases in 1909 and 1911. The original plans for the building were not available for review at the time of this report. The structural system consists of a wooden roof (including wood trusses) supported by unreinforced brick masonry walls.

The expected seismic performance of this building, in its current condition, is poor. The unreinforced masonry walls and the building's irregular shape pose a threat to the building and its occupants in the event of a seismically-induced ground movement. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of the Shop, Laundry, and Ice Plant Building. However, bringing unreinforced masonry buildings up to a Life Safety Performance Level will require extensive reconstruction work. A detailed summary of these measures is included in the final section of this report.

Description of the Building

This single-story building shares its east wall with the Power Plant Building, LACO No. 1300. Its average height is 13 feet. The unreinforced masonry walls, 13 inches thick, are constructed of two wythes of brick. The roof system in the southern and eastern areas is composed of wood trusses about 5 feet deep, spanning 75 feet, and spaced at 16 feet on center. The trusses support 2 × 6 purlins spaced at 16 inches on center. The diaphragm is a combination of 1-inch thick straight board sheathing and 1-inch thick diagonal sheathing. There is a large skylight in the middle of this roof, which may inhibit the ability of the diaphragm to fully transfer lateral forces across the building. The purlins are bearing on the masonry walls at the building perimeter.

If the interior walls are to be reconfigured to allow for a different use of the space, the expected structural performance of the building will be affected. An extensive structural analysis will be required, though it is very likely that new concrete shear walls will need to be added throughout the building to provide supplemental lateral resistance. Depending on the layout and placement of new walls and removal of old walls, a revised interior wall layout could result in highly increased structural performance of the building. This is due to the superiority of current design and construction methods compared to previous methods. New foundations would also have to be added below any new shear or bearing wall locations.

Condition Assessment

The condition of this building's roof may be described as generally dilapidated. The roof sheathing boards appear to have deteriorated with time, as shown in Figure 1. This is likely because they are not protected and have been exposed to moisture over the life of the building. The weathering process has caused the wood to warp, split, and lose some of its original flexibility. In several areas there are holes in the roof where the wood sheathing has split or broken. In addition, efflorescence can be seen on the surface due to the accumulation of minerals transported by the percolating water, shown in Figure 2[1].

Figure 3 shows the current condition of the painted wood trusses. The painted lumber has better retained its original characteristics because the paint has helped protect the lumber from exposure to moisture. The trusses are expected to have retained most of their original strength. However, one broken truss was observed on site (Figure 4). At this truss, the bottom chord has separated from the rest of the truss; additional damage is likely present but was more difficult to

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

observe. There appears to be fire damage to the surrounding wood members, and there is a large opening in the roof above the broken truss. The broken truss indicates that other trusses may also be broken or damaged. The trusses should be inspected carefully, strengthened, and replaced if broken. The wood on the awning at the north side of the building appears to have retained most of its strength but has deteriorated gradually over the years. It should be examined closely for dry rot and other damage. It appears strengthening has already been added to help support the rafters in two bays (Figure 5); additional strengthening may be required.

A visual inspection of the building revealed the poor condition of the masonry walls. As shown in Figure 6 and Figure 7, the mortar of the masonry on all exterior walls has significantly deteriorated over time. This deterioration was most noticeable in the lower courses. At the southern courtyard, the mortar showed significant deterioration and bricks were damaged near the top of the wall as well, as seen in Figure 6. This erosion of mortar is most likely due to the lime in the material leaching out following prolonged exposure to moisture and the elements. Much of the mortar that remains can be easily scraped away, and it pulverizes under light pressure. In conclusion, the chemical and physical properties of the masonry have been compromised, and the sliding shear capacity of the original bed joint has been significantly reduced. Testing is required to determine how much strength the masonry walls still have.

The facade, shown in Figure 8, appears to be in moderate condition. This indicates that the foundation has not experienced significant differential settlement, that appropriate lintels were used above openings, and that the quality of the original construction was good. In a few areas minimal cracking was observed, and at the north side location shown in Figure 9, a section of wall at the top corner of the building appears to have fallen.

The cooling tower over the low roof, adjacent to the Power Plant Building, appears to be constructed of wood (Figure 10). It was not inspected closely due to safety concerns. However, due to findings at the rest of the building it is assumed that the majority of the wood in the structure has deteriorated. Also, considering design practices at the time of construction, it is believed that the cooling tower is lacking proper bracing to resist lateral loads and may collapse or create a falling hazard in a seismic event.

To maintain the cooling tower in place, detailed structural analysis of the structure would be required, as well as analysis of the amount of deterioration of the wood. Strengthening would require a new steel frame and bracing, with new supports for these items. Strengthening requirements are expected to be extensive, and would likely affect the look of the tower, which would impact the character-defining features of the building. It is recommended to assume that the cooling tower would need to be replaced or replicated rather than repaired.

Evaluation of Structural Performance

The building has the necessary elements to resist seismic forces, including a roof diaphragm, shear walls, and foundation. However, there is no positive connection between these elements, which means the lateral resisting system as a whole is insufficient. The plan is irregular in shape, which is a source of concentration of stress. The masonry has deteriorated significantly, a sign of a loss of strength in the material. The positive aspects of this building's design are its light roof (which means lower shear stress during an earthquake), the quality of building materials used during its original construction, and the quality of workmanship during the original construction. It is expected that these features are the reason the building performed well with no apparent damage during the 1994 Northridge earthquake (6.8M, about 25 miles away). A primary negative aspect of the building is that it is unreinforced masonry construction; this building type is no longer allowed in new construction due to its historically poor earthquake performance. Though the building performed well in previous regional earthquakes, the walls still present a significant potential falling hazard and are not likely to perform well in a closer or more severe earthquake. The walls of this building fail the ASCE 41 check for height-to-thickness ratio, and a supplemental analysis would be required to assess the capacity of the walls for out-of-plane forces. To resist these out-of-plane forces, the walls should be adequately anchored to the roof diaphragm and the foundation. However, the accentuated slenderness of the walls and the absence of a direct connection between the infill and the boundary elements show that these walls are very vulnerable to severe earthquake

damage. During a moderate earthquake, entire panels of the walls could potentially lose support, fall, damage the property, and threaten the lives of the occupants of the building.

The roof diaphragm is expected to need upgrades to meet a Life Safety Performance Level. Though the seismic demand on a wood roof diaphragm is usually minimal, this particular diaphragm has several concerning aspects. First, it is constructed of wood sheathing no longer used in construction. A plywood diaphragm would most likely need to be installed to fully transfer forces across the building. The deterioration of the lumber and visible openings in the roof indicate a significant loss of strength. The large skylight opening, the high length-to-width ratio of the diaphragms, and the lack of adequate connections to the walls indicate potentially poor performance in the event of an earthquake.

There is an additional concern that with no seismic gap between this building and the Power Plant Building, pounding may occur as the two buildings move independently during a moderate earthquake. This could cause damage or partial collapse, which could risk the safety of the building occupants. This risk is very difficult to mitigate and would need to be taken into consideration during building and foundation upgrades.

Summary of Proposed Upgrades

The expected structural performance of the Shop, Laundry, and Ice Plant Building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the masonry walls. Strengthening will likely be needed on every wall over the majority of the wall's surface area. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced masonry walls. Shotcrete would most likely be required on all unreinforced masonry walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the shotcrete. Once shotcrete is applied, the interior brick and any wall mounted industrial interior piping may no longer be visible.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be interrupted by a network of steel tube framing.
- Surface coat the walls with fiber reinforced polymer (FRP).
- Upgrade foundations beneath the walls to resist overturning forces.
- Anchor the walls to the foundations.

Diaphragm

- Install new steel anchors between walls and diaphragm. Anchors would be installed around the entire perimeter of the building. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Replace existing roof sheathing with plywood diaphragm.

- Replace deteriorated and insufficient wood members.

General Condition

- Reinforce existing connections of the trusses to the columns. Check and possibly strengthen the connection of the trusses to the walls.
- Replace significantly damaged and deteriorated wood elements, including any damaged trusses. Damaged trusses must be shored in place until the repair is complete. At least one truss is broken and will need to be fully replaced. Several other trusses may need to be replaced.
- Strengthen all roof trusses that are not being replaced.
- Repair purlins, sheathing, roofing, and all other items that are fire damaged.
- Replace rotted or split roof sheathing; repair holes in the roof. These conditions occur at significant portions of the roof, possibly 40-80% of the roof area.
- Repair and/or replace all deteriorated masonry. Patch and grout any areas where spalling and cracking has occurred.
- Repair the eroded mortar. It is expected that at least 50% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building would need to be repointed.
- Strengthen the cooling tower with a new steel frame and bracing. This will likely affect the current appearance of the tower. Alternatively, replace or replicate the cooling tower. It is recommended to assume replacement or replication will be needed.
- Replace the plaster ceiling, where it occurs. Most of the building has exposed roof framing with no ceiling, but in areas where there is a plaster ceiling, the plaster has fallen in large pieces and the metal lath is exposed and rusted.

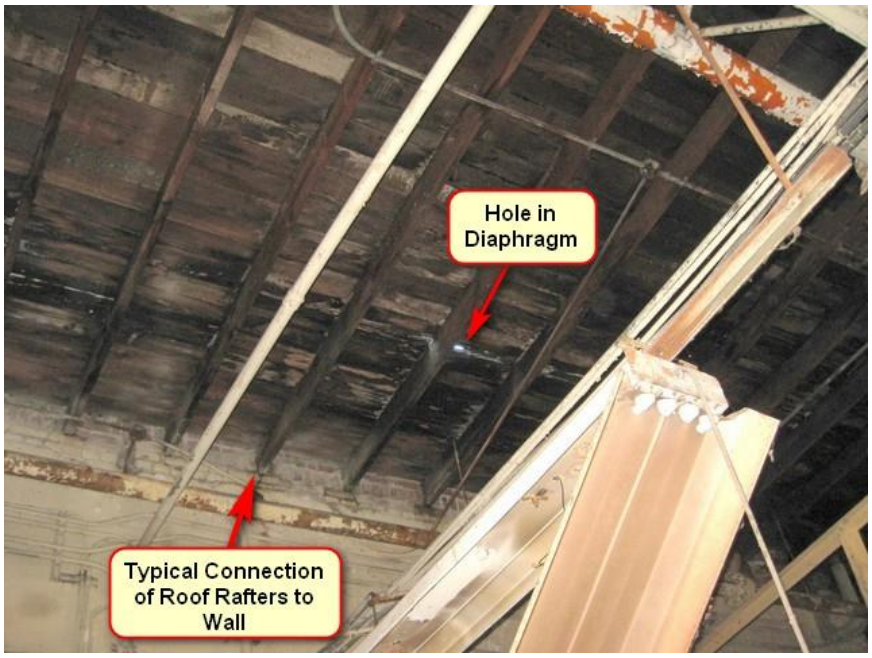


Figure 1: Current condition of roof sheathing and framing, showing deterioration and water damage

Figure 2: Efflorescence and deterioration of roof sheathing & joists, as observed in 2006

Figure 3: Current condition of painted wood trusses

Figure 4: Broken wood truss and surrounding fire damage

Figure 5: Condition of north side awning

Figure 6: Deterioration of masonry and mortar

Figure 7: Deteriorated mortar can be easily scraped away

Figure 8: General condition of the facade, west side

Figure 9: Facade condition at northwest corner

Figure 10: Water tower seen from the south side

C LACO Nos. 1300 and 1302 (Power Plant, Shop, Laundry and Ice Plant) – Preservation/Adaptive Reuse Cost Plan

Power Plant, Shop, Laundry & Ice Plant

MGAC

Feasibility Study Cost Plan — Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)

			SF	$/SF	TOTAL $ x 1,000
B1	Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)		23,838	548.87	13,084
SUB-TOTAL BUILDING CONSTRUCTION			23,838	548.87	13,084
S1	Sitework		20,000	136.75	2,735
	Premium for enhanced sustainable site features				237
SUB-TOTAL SITEWORK					2,972
TOTAL BUILDING AND SITEWORK					**16,056**
Escalation to Midpoint (Jul 2021)		11.7%			1,873
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Preparation of historical building report (allow $150K)				150
	Design and Engineering Consultant Services	8.0%			1,434
	Project Management Consultant Services	3.0%			585
	FF & E	5.8%			1,166
	Taxes and Indirect Fees	1.0%			213
	Building Permit and Other Agency Fees	1.5%			322
	Owner Contingency/Construction Contingency	25.0%			5,450
Recommended Budget					***27,249***

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Power Plant	10,400		
Shop, Laundry & ice plant	13,438		
TOTAL GROSS FLOOR AREA	**23,838**		**0**

Control Quantities				Ratio to GFA
Number of stories		1	EA	0.000
Gross Area		23,838	SF	1.000
Enclosed Area		23,838	SF	1.000
Footprint Area		23,838	SF	1.000
Gross Wall Area		24,000	SF	1.007
Finished Wall Area		24,000	SF	1.007
Windows or Glazing	20%	4,812	SF	0.202
Roof Area - Total		22,838	SF	0.958
Roof Glazing Area		650	SF	0.027
Finished Area		23,838	SF	1.000
Elevators (Ratio x 10,000)		1	EA	0.419
Plumbing Fixtures (Ratio x 1,000)		32	EA	1.342
HVAC		30,000	CFM	1.258
Electrical Load (Ratio x 1,000)		575	kVA	24.121
Lighting Systems		23,838	SF	1.000
Sprinkler Systems		23,838	SF	1.000

MGAC

Feasibility Study Cost Plan

Power Plant, Shop, Laundry & Ice Plant Summary (LACO Nos. 1300, 1302)

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	23,838 SF	
A10	Foundations		3%	15.13	361
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	15.13	361
B10	Superstructure		20%	110.47	2,633
B20	Exterior Enclosure		8%	41.91	999
B30	Roofing		5%	27.23	649
B	Shell		33%	179.61	4,282
C10	Interior Construction		5%	27.53	656
C20	Stairways		0%	0.63	15
C30	Interior Finishes		4%	23.25	554
C	Interiors		9%	51.40	1,225
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	20.31	484
D30	Heating, Ventilation & Air Cond.		10%	55.31	1,319
D40	Fire Protection		1%	7.00	167
D50	Elect'l Lighting, Power & Comm.		15%	84.85	2,023
D	Services		31%	167.48	3,992
E10	Equipment		0%	0.00	0
E20	Furnishings		1%	8.19	195
E	Equipment & Furnishings		1%	8.19	195
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		1%	8.00	191
F	Special Construction & Demolition		1%	8.00	191
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	429.82	10,246
Z10	Design Contingency	10.00%	8%	42.98	1,025
Z11	General Requirements	4.00%	3%	18.91	451
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	491.71	11,721
Z21	General Conditions	6.00%	5%	29.50	703
Z22	Bonds & Insurance	1.50%	1%	7.82	186
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	19.84	473
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	548.87	13,084
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	548.87	13,084

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				104,000
Footing for new brace frames - Power Plant	10,400	SF	10.00	104,000
A1030 Slab On Grade				256,785
New slab on grade - Power Plant				
Power Plant	10,400	SF	15.00	156,000
Clean, acid wash and repair concrete slab				
Ice Plant and Laundry Shop	13,438	SF	7.50	100,785
				360,785
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				2,483,252
Braced frames - Power Plant (allow 6 psf)	31	T	5,000.00	155,000
FRP reinforcement to exterior walls	19,300	SF	80.00	1,544,000
Vertical and horizontal strongbacks to exterior walls	24,100	SF	5.00	120,500
Shotcrete to interior walls, allow 10000 SF	10,000	SF	50.00	500,000
Equipment pads, equipment curbs and wall curbs	23,838	SF	2.00	47,676
Spray applied fireproofing to steelwork	171	T	400.00	68,400
Allowance for miscellaneous framing, bracing blockings and metals	23,838	SF	2.00	47,676
B1020 Roof Construction				150,200
Steel anchors between wall and diaphragm, max 4' oc	122	EA	700.00	85,400
Strengthening truss column connections	36	EA	900.00	32,400
Strengthen connection between raised roof and main roof	36	EA	900.00	32,400
				2,633,452

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				441,700
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	19,300	SF	8.00	154,400
Repair/replace deteriorated masonry, repair mortar, epoxy all cracks and voids	19,300	SF	5.00	96,500
Gypsum board lining	19,300	SF	6.00	115,800
Loose fill insulation				*n/a*
Repair/replace damage trims	1	LS	75,000.00	75,000
B2020 Exterior Windows				529,320
Remove windows, clean, repair, repaint framing, replace hardware and glazing, reinstall (high performance glazing)	4,812	SF	110.00	529,320
B2030 Exterior Doors				28,000
New steel doors and frames to match existing	2	EA	5,000.00	10,000
Metal roll-up doors, allow 10 x 10	2	EA	9,000.00	18,000
				999,020
B30 Roofing				
B3010 Roof Coverings				649,031
Rigid insulation, minimum 6"	23,838	SF	5.00	119,190
Single ply roofing system to roof decks (including premium for cool roof)	23,838	SF	14.50	345,651
Flashing, trims, roof specialties and accessories	23,838	SF	3.00	71,514
Skylights - refurbish steel frame and provide new glazing	650	SF	100.00	65,000
Caulking and sealants	23,838	SF	2.00	47,676
B3020 Roof Openings				
				649,031

	Quantity	Unit	Rate	Total
C10 Interior Construction				
C1010 Partitions				490,000
Remove paint from masonry, repair, repoint.	20,000	SF	12.00	240,000
Remove damage plaster in laundry and Ice Plant and replace in kind	10,000	SF	25.00	250,000
C1020 Interior Doors				42,000
Repair existing doors, replace glazing and door hardwares	12	EA	3,500.00	42,000
C1030 Fittings				124,152
Prefabricated toilet compartment and accessories	16	EA	1,800.00	28,800
Cabinets, countertops shelving and millwork, code required signages, and fire extinguisher cabinets	23,838	SF	4.00	95,352
				656,152
C20 Stairways				
C2010 Stair Construction				15,000
Repair existing stairs, ladder, etc	1	LS	15,000.00	15,000
				15,000
C30 Interior Finishes				
C3010 Wall Finishes				100,125
Painting to interior walls	64,100	SF	1.25	80,125
Enhance wall finishes	1	LS	20,000.00	20,000
C3020 Floor Finishes				224,866
Vinyl floor tiles	17,838	SF	7.00	124,866
Ceramic floor tiles	5,000	SF	20.00	100,000
C3030 Ceiling Finishes				229,190
Painting to exposed structure	17,838	SF	5.00	89,190
Allow for suspended ceiling	5,000	SF	18.00	90,000

	Quantity	Unit	Rate	Total
Miscellaneous				
Allow for cleaning and painting existing boiler pipeworks to remain	1	LS	50,000.00	50,000
				554,181
D10 Conveying Systems				
				0
D20 Plumbing Systems				
D2010 Plumbing Fixtures				64,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	32	EA	2,000.00	64,000
D2020 Domestic Water Distribution				116,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	4	EA	2,500.00	10,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	32	EA	3,000.00	96,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	10,000.00	10,000
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				167,514
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	23,838	SF	2.00	47,676
Condensate drainage pipework, fittings, < = 1-1/2", insulated	23,838	SF	1.00	23,838
Waste, vent, fittings, < = 6"	32	EA	3,000.00	96,000

	Quantity	Unit	Rate	Total
D2040 Rain Water Drainage				71,514
Surface water drainage				
Roof & overflow drains, < = 6"	23,838	SF	3.00	71,514
D2090 Other Plumbing Systems				65,226
Rough-in for kitchen/servery				
Including floor drainage systems	23,838	SF	2.00	47,676
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	17,550.00	17,550
				484,254
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				253,961
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	1,000	mbth	27.50	27,500
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	23,838	SF	1.50	35,757
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	23,838	SF	8.00	190,704
D3040 Distribution Systems				646,176
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	30,000	LB	12.00	360,000
Kitchen/servery specialty exhaust rough-in (allow 15% galv.)	4,500	LB	22.50	101,250
Dampers	1	LS	36,000.00	36,000
Insulation	22,500	SF	4.50	101,250
Diffusers, registers and grilles	23,838	SF	2.00	47,676

	Quantity	Unit	Rate	Total
D3050 Terminal & Package Units				262,838
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation (1.25 CFM/SF)	30,000	CFM	8.00	240,000
VAV boxes, terminal reheat (1/1,000 SF)	23	EA	1,000.00	22,838
D3060 Controls and Instrumentation				107,271
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	23,838	SF	4.50	107,271
D3070 Systems Testing & Balancing				35,757
Test and balance air systems	23,838	SF	1.50	35,757
D3090 Other HVAC Systems & Equipment				12,500
Unit ventilation/exhaust fans				
Kitchen exhaust	1	LS	7,500.00	7,500
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	5,000.00	5,000
				1,318,503

D40 Fire Protection

D4010 Sprinklers				166,866
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	23,838	SF	7.00	166,866
				166,866

	Quantity	Unit	Rate	Total
D50 Elect'l Lighting, Power & Comm.				
Institutional grade				
D5010 Electrical Service & Distribution				568,633
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders (allow 25 W/SF)	575	kVA	275.00	158,125
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	144	kVA	975.00	140,156
Photovoltaic panels	35	KW	5,000.00	175,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, kitchen, A/V equipment, dampers, BMS power, fire, IT and security systems	23,838	SF	4.00	95,352
D5020 Lighting & Branch Wiring				953,520
User convenience power				
Panel board breakers, 120 V circuits	23,838	SF	2.00	47,676
Receptacles, including conduit and cable	23,838	SF	5.50	131,109
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	23,838	SF	27.50	655,545
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	23,838	SF	5.00	119,190
D5030 Communications & Security				297,975
Telephone and communications				
Telephone/data - including conduit & cable	23,838	SF	5.00	119,190
WAP	23,838	SF	1.00	23,838
DAS - Emergency response & cellular	23,838	SF	4.00	95,352
Cable tray/wire-way/j-hooks	23,838	SF	1.00	23,838
Audiovisual rough-in	23,838	SF	1.50	35,757

	Quantity	Unit	Rate	Total
D5090 Other Electrical Systems				202,623
Fire alarm systems	23,838	SF	4.50	107,271
Security - perimeter access control & CCTV surveillance	23,838	SF	4.00	95,352
				2,022,751
E10 Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				195,300
Window treatment	4,812	SF	25.00	120,300
Entrance mat	1	LS	75,000.00	75,000
E2020 Movable Furnishings				
				195,300
F10 Special Construction				
F1010 Special Structures				
Seismic retrofit of existing Chimney				*see site*
				0

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				71,500
Selective demolition				
Demo and remove slab on grade - Power Plant	10,400	SF	5.00	52,000
Allow for clearing debris, demo lightweight partitions, suspended ceilings, etc	300	MH	65.00	19,500
F2020 Hazardous Components Abatement				119,190
Hazmat abatement - allowance	23,838	SF	5.00	119,190
				190,690

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)				
Gross Site Area	43,800	SF		
Building footprint	23,838	SF		
Net Site Area	20,000	SF		
Site Preparation				*170,000*
General site clearing, demo and remove, rough grading & fine grading	20,000	SF	2.50	50,000
Strip and remove asphalt paving	20,000	SF	3.00	60,000
Miscellaneous site demolition	20,000	SF	2.00	40,000
Rough grading	20,000	SF	0.50	10,000
Fine grading	20,000	SF	0.50	10,000
G1040 Hazardous Waste Remediation				
Site Improvement				*1,544,000*
Concrete paving, 4" thick	14,000	SF	20.00	280,000
Premium for permeable paving	7,000	SF	13.00	91,000
Premium for disabled access	1	LS	30,000.00	30,000
Site structures, fencing and gates,	43,800	SF	10.00	438,000
Seismic retrofit of existing Chimney/smoke stack				
Interior shotcrete	3,000	SF	75.00	225,000
Foundation upgrade	1	LS	220,000.00	220,000
Miscellaneous/contingency	1	LS	160,000.00	160,000
Landscaping and irrigation	1	LS	100,000.00	100,000
Site Utilities - Allow 200' per building				*427,500*
Water mains, domestic and fire				
Domestic water pipework, fittings, < = 6"	200	LF	87.50	17,500
Fire water pipework, fittings, < = 8"	200	LF	92.00	18,400
Valves and specialties (including metering)	1	LS	23,500.00	23,500
Connections to existing	2	EA	3,750.00	7,500
Sanitary Sewer				
Underground pipework, fittings, < = 10"				
New connection pipework, < = 10" PVC/VCP	200	LF	87.50	17,500
Connections/Manholes - to existing	1	LS	17,500.00	17,500

Item Description	Quantity	Unit	Rate	Total
Storm drainage				
Storm drainage catchment, treatment and run-off, including Contech tank, piping to the tank and tie-in to irrigation for the storm and re-use system	1	LS	100,000.00	100,000
Fuel Distribution				
Natural gas/metering/seismic protection	1	LS	25,000.00	25,000
Mains power - run from overhead to underground				
Pad-mounted transformer, 480/277 V, primary feeder				
Feeder conduit only, (20 4"	200	LF	200.00	40,000
Manholes/pull-boxes	1	LS	17,550.00	17,550
Site lighting	1	LS	100,000.00	100,000
Telecommunications/signals				
Underground conduit and cable, (4) 4" (allowance)	200	LF	127.50	25,500
Manholes/pull-boxes	1	LS	17,550.00	17,550
Alternate Cost Before Markups				**2,141,500**
Z10 Design Contingency	10.00%			214,150
Z11 General Requirements	4.00%			94,226
Z21 General Conditions	6.00%			146,993
Z22 Bonds & Insurance	1.50%			38,953
Z23 Contractor's Overhead, Profit & Fee	3.75%			98,843
Z30 See Overall Summary for Escalation	0.00%			
				2,734,665

D LACO Nos. 1300 and 1302 (Power Plant, Shop, Laundry and Ice Plant) – Mothballing Report

Photo by Adrian Scott Fine/LA. Conservancy

MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

RANCHO LOS AMIGOS, SOUTH CAMPUS
Buildings 1300, 1301, and 1302
February 12, 2019

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CONTENTS **PAGE**

1. **Introduction** 3
2. **Mothballing Checklist** 5
3. **As-found conditions** 15

APPENDICES 26

A. **Historic Building data**

B. **Selected drawings of site and buildings**

C. **Sharon Park, FAIA, Preservation Briefs No. 31, Mothballing Historic Buildings**

D. **Thomas E. Solon, AIA Emeritus, Security Panels for the Foster-Armstrong House**

MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

RANCHO LOS AMIGOS, SOUTH CAMPUS Buildings 1300, 1301, and 1302 February 12, 2019

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The property has been identified as a historic resource. However, it may remain vacant for an unspecified period of time. This plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short term goal, and not a long term building rehabilitation. Mothballing work requires monitoring and maintenance after the mothballing work is completed; all buildings require maintenance. Mothballing will not provide the longer life cycle performance of a rehabilitation project.

This is a planning document for the purpose of stabilizing and protecting buildings on the South Campus of Rancho Los Amigos. The plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

The appendices to this plan include historic data that describes the location, narrative history, and significance of the property. The appendices to this plan also include construction drawings dated 2011 from an unbuilt project that provide useful background information about the buildings. The buildings can be expected to have deteriorated and may have changed in minor respects since the 2011 project documentation and the 2017 historic assessment. The most notable damage is due to rain water because the roofing and roof decks and sheathing have failed in many locations.

No historic structure reports nor more current detailed descriptions and statements of significance and condition are available for the buildings. The objective is to stabilize and protect the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. Future assessment could provide additional information about the value and significance of specific features, materials, and finishes. The information available by field observation and in the appendices provide ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stablilize and protect existing materials features are (a) roofing materials and sheathing, (b) a corrugated metal shed addition, and (c) an open shed on the north side of the west wing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required. The added sheds are not significant additions, and could be removed as an option by the owner in the process of scoping and executing a mothballing project.

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This plan follows the direction provided by the document titled, "Preservation Briefs 31, Mothballing Historic Buildings, authored by Sharon C. Park, AIA (subsequently elevated to FAIA), and published by the National Park Service.

"When all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism. This process, known as mothballing, can be a necessary and effective means of protecting the building while planning the property's future, or raising money for a preservation, rehabilitation or restoration project. If a vacant property has been declared unsafe by building officials, stabilization and mothballing may be the only way to protect it from demolition."

The primary author of this report, Peyton Hall, FAIA, exceeds the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61) for architecture, historic architecture, and architectural history.

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Item #	Item	Recommendations
St-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	*The primary structure appears to be unreinforced brick masonry with ferrous metal and wood framed gable roofs, in fair to poor condition. There are many large window openings in masonry walls, which is a potentially weak condition when subjected to lateral seismic forces.* *The brick walls are saturated with moisture, and some mortar joints are deteriorated. A large volume of rain water was observed waterfalling into the building at multiple locations; therefore, the roof membrane is deteriorated or missing. There are holes in the roof decks and sheathing. It is possible that interim structural work is needed for the purpose of mothballing.* *The water storage tank and stack are tall structures, possibly with small foundations, that may be a potentially weak condition when subjected to vertical and lateral acceleration by seismic forces.* *Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations if need be for any further technical assessment for further action. It is noted that the objective is stabilization, not ultimate rehabilitation either to meet current regular building standards or alternative standards under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard is subject to being informed by a qualified engineer and meeting the owner's expectations.*
M-1	Is the roof watertight?	As noted in St-1, the roofing membrane and roof decks/sheathing are very badly deteriorated. The condition of the decks/sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. *Closing holes in the roof deck/sheathing, skylights, and roof monitors with clerestory windows, and installation of an effective roof membrane is the most important action required to mothball the building.*

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Item #	Item	Recommendations
		Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect, and/or licensed roofing contractor. Qualitatively, a bituminous base sheet, modified bituminous mineral-surfaced cap sheet, with prefinished metal eaves and gable drip flashing is an acceptable approach for this purpose. Flame-down applications are not recommended, but are an acceptable option if installed to manufacturer's recommendations and monitoring for potential fires caused by smoldering wood substrates and cavities. Cold application is preferred. Hot adhesive application is acceptable if the adhesive heater is no closer than 50 feet from the building; a temporary heat and blast barrier is recommended between the heater and buildings to deflect any accidental combustion and explosion of fuel tanks. *All necessary measures shall be taken to prevent impact and mechanical damage to the building structure and finishes during roof repairs. Scaffolding, and/or working from lifts over the roof are possible options as part of the means and methods to be developed by the builder if necessary to prevent damage.*
M-2	Do the gutters retain their proper pitch and are they clean?	The buildings were observed during very heavy rainfall. There is no effective conduction of water on the building, or off the building to adjacent grade or storm sewers. Rainwater flows into the building through holes in the roof. The finish grades near the exterior of the building are almost flat. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current season demonstrates that extremely heavy and frequent rainfall occurs. *Assess existing roof drainage configuration. In conjunction with a roofing project, provide a temporary metal drainage system that conducts rainwater to exterior grade. For a short term mothballing project, light gauge prefinished aluminum components are an acceptable to a more durable construction system. Provide rain leader extensions to take water away from the base of the building, and to adjacent street drainage curbs and gutters if practical.*
M-3	Are downspout joints intact?	Refer to M-2 above.

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Item #	Item	Recommendations
M-4	Are drains unobstructed?	Refer to M-2 above.
M-5	Are windows and doors and their frames in good condition?	The original windows and doors are largely still in place, constructed of ferrous metal and wood. Extant frames and sash are painted ferrous metal and wood. Conditions are fair and poor. Some windows are shut, with intact operating hardware; some glazing is broken or missing, and some sash is left open and may be damaged. Most window openings have at least exterior plywood board-ups, though some are loose or falling away. Many doors appear to have been previously replaced. Most doors are wood, including wood double French doors (swinging, divided light) that are consistent with the archival original construction drawings. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon. Omit the tromp l'oeil muntins shown in Solon's document. All wood and plywood components shall be primed and painted on all surfaces (i.e., "back-painted," front, rear, ends, edges) after being cut to size, and before assembly, such that there are no unpainted wood surfaces, including no hidden unpainted wood or plywood surfaces. This detail also provides for passive ventilation through screened louvers.*
M-6	Are masonry walls in good condition to seal out moisture?	Exterior walls unreinforced multi-wythe red clay brick masonry. Exterior paint is failing or missing. Some mortar joints are deteriorated and open. The walls are saturated with moisture entering from the exterior and draining down the walls from many holes in the roof, and may be subject to rising damp from standing water on adjacent interior floors. *The building is in direly poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some*

Item #	Item	Recommendations
		good purpose in protecting the walls and windows from water damage. Practically speaking, very short term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out. Pump out standing water at the spaces below grade near the east wall at the Power Plant. Dehumidifying equipment is not very effective in removing moisture from thick masonry walls, and not very practical as the interior spaces are not closed off from the exterior. Mechanical dehumidification can exacerbate damage caused by deposition of salts and minerals transported to the surface of bricks as moisture evaporates.* *After the dry out period, brush off loose salts and paint. Do not use pressurized water or any abrasive methods in any media to prepare the walls prior to repainting the exterior. Repaint exterior walls with an exterior paint that is compatible with the existing paint surface and has a permeability rating of 12 perms or much greater. The objective of a temporary coating is to protect the relatively soft brick surface, discourage absorption of water, and allow for moisture in the wall to continue to evaporate. A highly impermeable paint of 12 perms or less will hold moisture in the wall and exacerbate the damage caused by moisture to the brick and mortar.*
M-7	Is wood siding in good condition?	There appear to be metal and wood components on the mechanical tower, in fair to poor condition. *Design and engineer a framed shelter for the tower that deflects rain and solar radiation. As the objectives of mothballing are short term, the shelter can be lightly-framed wood and plywood with a nailed*

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Item #	Item	Recommendations
		membrane, subject to the recommendations of a structural engineer for stability and attachment to the existing roof deck and walls.
M-8	Is site properly graded for water run-off?	*Refer to M-2 above.*
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are a very few areas of weeds growing in the current rainy season. *Cut and remove cuttings from grass and weeds down to grade, and maintain at a close cut, or remove to bare soil. Yard maintenance does not need to be frequent, and can be in response to seasonal inspections.*
P-1	Have nests/pests been removed from the building's interior and eaves?	In the past, feral cats were observed in this area. Reportedly the cats are fed, but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. A life skunk was observed in the interior near the south wall of the power building. We did not observe nests and any other small mammals, birds, bees, or insects at the interior or eaves. As skunk odor was observed in Casa Consuelo two years ago, there is a resident population of adults and possibly juveniles. *Continue best practices for management of the feral cat population.* *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* *As noted in this Plan, seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building. Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.

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Item #	Item	Recommendations 10
		No work is recommended.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	We are not informed as to whether or not the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. *As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation, e.g., every 7 years, is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	*Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement, and to abate.*
H-1	Have the following been removed from the interior: trash, hazardous materials such as inflammable liquids, poisons, and paints and canned goods that could freeze and burst?	There are furnishings, miscellaneous items, and debris from the deterioration of interior finishes and failure of the building envelope. We did not observe any furnishing or items that appear to be of cultural or historic value except for the possible interest in the equipment in the machine shop space at the south end of the Power Plant. There is other large equipment that is not evaluated in the historic assessment, but which can be left in place during the mothballing period. *The County of Los Angeles may at their discretion consider having the furnishings and miscellaneous items observed by an archival, history, cultural, or museum staff person at RLA, or one of the County's cultural institutions.*
H-2	Is the interior broom-clean?	No. *After removing all items from the interior, remove building material debris (e.g., plaster, lath, paint chips), and sweep the floors broom-clean.*
H-3	Have furnishings been removed to a safe location?	*Refer to H-1 above.*
H-4	If furnishing are remaining in the building, are they properly	*Do not leave any furnishings in the building.*

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	protected from dust, pests, ultraviolet light, and other potentially harmful problems?	
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended.*
H-6	Is there a building file?	We were provided with documents about the property from which the appendices were selected. There may be additional building files that belong to the owner. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	Our access to the district and property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work, and secured the buildings after we left. The district perimeter is marked by tall woven

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		wire fences and locked gates. A uniformed Deputy Sheriff needed to be present to open a locked gate and verify our identities prior to walking or driving in the gate. The officer remained at post at the gate until we left the district. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction if need be, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entry, fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department.* *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at M-5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call, and is on the call list when fire, smoke, and security alarms are activated, and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*

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Item #	Item	Recommendations
S-6	Are the grounds being kept from becoming overgrown?	No; however, there is very little plant growth and very little debris on the grounds. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. *No action required.*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required.*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open. *No work is recommended.*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
MAINTENANCE CHECKLIST		

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Item #	Item	Recommendations 14
MC-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
MC-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
MC-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

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Image #	Description	Overview of general and typical as-found conditions January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
1	Shop, Laundry, Ice Plant and 1911 Addition Exterior; north elevation, west end, view south. Corrugated metal shed was added after the period of significance and is not a character-defining feature. Open shed addition after period of significance is not a character-defining space or feature. Paint failure, inadequate door and window board-ups.	
2	Shop, Laundry, Ice Plant and 1911 Addition Exterior; north elevation, east end, view south.. Paint failure, inadequate door and window board-ups. Open shed addition after period of significance is not a character-defining space or feature.	

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Image #	Description	Overview of general and typical as-found conditions January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
3	Power Plant Exterior; west elevation, view east. Paint failure, overgrown plants, inadequate window board-ups. Open shed addition after period of significance is not a character-defining space or feature.	
4	Power plant Exterior; north elevation, view southeast. Paint failure, inadequate window board-ups.	

Image #	Description	Overview of general and typical as-found conditions 17 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
5	Power plant Exterior; east elevation, west wing, view northwest. Paint failure, overgrown plants, inadequate window board-ups.	
6	Power plant Exterior; south elevation, east end, view north. Paint failure, inadequate door and window board-ups.	

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Image #	Description	Overview of general and typical as-found conditions January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
7	Shop, Laundry, Ice Plant and 1911 Addition Exterior; south elevation, center courtyard, view north. Paint failure, inadequate door and window board-ups.	
8	Shop, laundry, ice plant and 1911 addition Exterior; south elevation, west end, view northwest. Paint failure, inadequate door and window board-ups.	

Image #	Description	
9	Shop, laundry, ice plant and 1911 addition Exterior; south elevation, west end, view northeast. Paint failure, inadequate door and window board-ups.	
10	Shop, laundry, ice plant and 1911 addition Exterior; partial south and west elevation, view northeast. Paint failure, inadequate door and window board-ups.	

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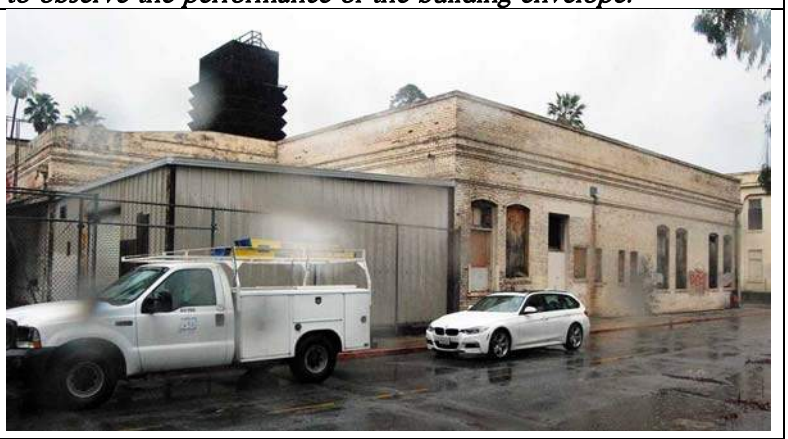
Image #	Description	Overview of general and typical as-found conditions 20 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
11	Shop, laundry, ice plant and 1911 addition Exterior; partial south and west elevation, view northeast. Paint failure, inadequate door and window board-ups Corrugated metal shed addition after period of significance and not a character-defining space or feature.	
12	Shop, laundry, ice plant and 1911 addition Exterior; partial north elevation at west end, view southwest. Paint failure, inadequate door and window board-ups Corrugated metal shed addition after period of significance is not a character-defining space or feature. Open shed addition after period of significance is not a character-defining space or feature.	

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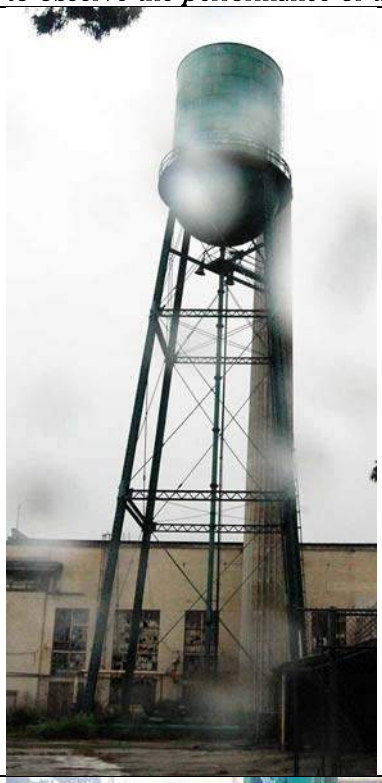
Image #	Description	Overview of general and typical as-found conditions 21 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
13	Water tower Exterior, view east. Failing paint and light corrosion of ferrous metal.	
14	Water tower Exterior, view east, detail of column and footing at northwest corner. Failing paint and light corrosion of ferrous metal.	

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Image #	Description	Overview of general and typical as-found conditions 22 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
15	Power plant Interior, space previously converted to machine shop use, south wall, view south southeast. Failed or missing roofing membrane and roof sheathing/deck; rainwater ponding inside building, paint failure, inadequate door and window board-ups.	
16	Power plant Interior, space previously converted to machine shop use, west wall, view west northwest. Failed or missing roofing membrane and roof sheathing/deck; rainwater ponding inside building, paint failure.	

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Image #	Description	Overview of general and typical as-found conditions 23 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
17	Shop, laundry, ice plant and 1911 addition Interior; metal frame and glazed skylight. Damaged frame, broken glass allows rainwater, birds, and small animals to enter building. Metal frame is from the period of period of significance and is a character-defining feature	
18	Power plant Interior; typical metal frame and glazed clerestory. Damaged frame, broken glass allows rainwater, birds, and small animals to enter building. Metal frame, sash, and operating hardware is from the period of period of significance and are character-defining features.	

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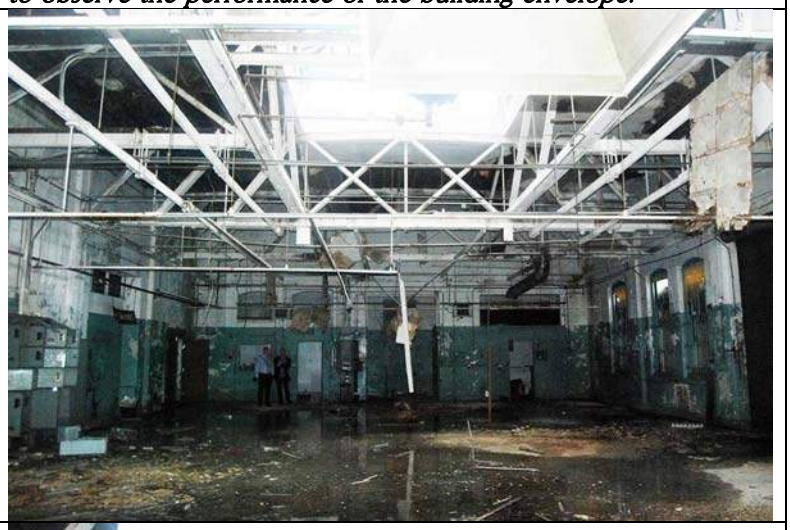
Image #	Description	Overview of general and typical as-found conditions 24 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
19	Shop, laundry, ice plant and 1911 addition Interior, east wall, view east. Failed or missing roofing membrane and roof sheathing/deck; rainwater ponding inside building, paint failure, inadequate door and window board-ups.	
20	Shop, laundry, ice plant and 1911 addition Interior, north wall, view north northeast. Failed or missing roofing membrane and roof sheathing/deck; rainwater ponding inside building, paint failure, inadequate door and window board-ups.	

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Image #	Description	
21	Shop, laundry, ice plant and 1911 addition Interior, typical wood window frame and double-hung sash with interior security bars. In general, window frames and sash, wood and metal, are from the period of significance. Significant features should be retained and protected in place.	
22	Interior; dining room, ceiling. Reinforced concrete roof deck system (pan joist) appears to be sound. Total failure of plaster and expanded metal lath due to expansive corrosion.	

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APPENDICES

A. **Historic Building data**

B. **Selected drawings of site and buildings**

C. **Sharon Park, FAIA, Preservation Briefs No. 31, Mothballing Historic Buildings**

D. **Thomas E. Solon, AIA Emeritus, Security Panels for the Foster-Armstrong House**

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1. Location map from historic assessment by ESA, 2017
2. Aerial view and district boundary by ESA, 2017
3. Historic contributors evaluation map by ESA, 2017
4. DPR record for subject buildings by Sapphos, 2008
5. DPR Primary Record for historic district by ESA, 2017
6. Historic assessment eligibility table by ESA, 2017
7. Historic assessment photos of subject buildings by ESA, 2017

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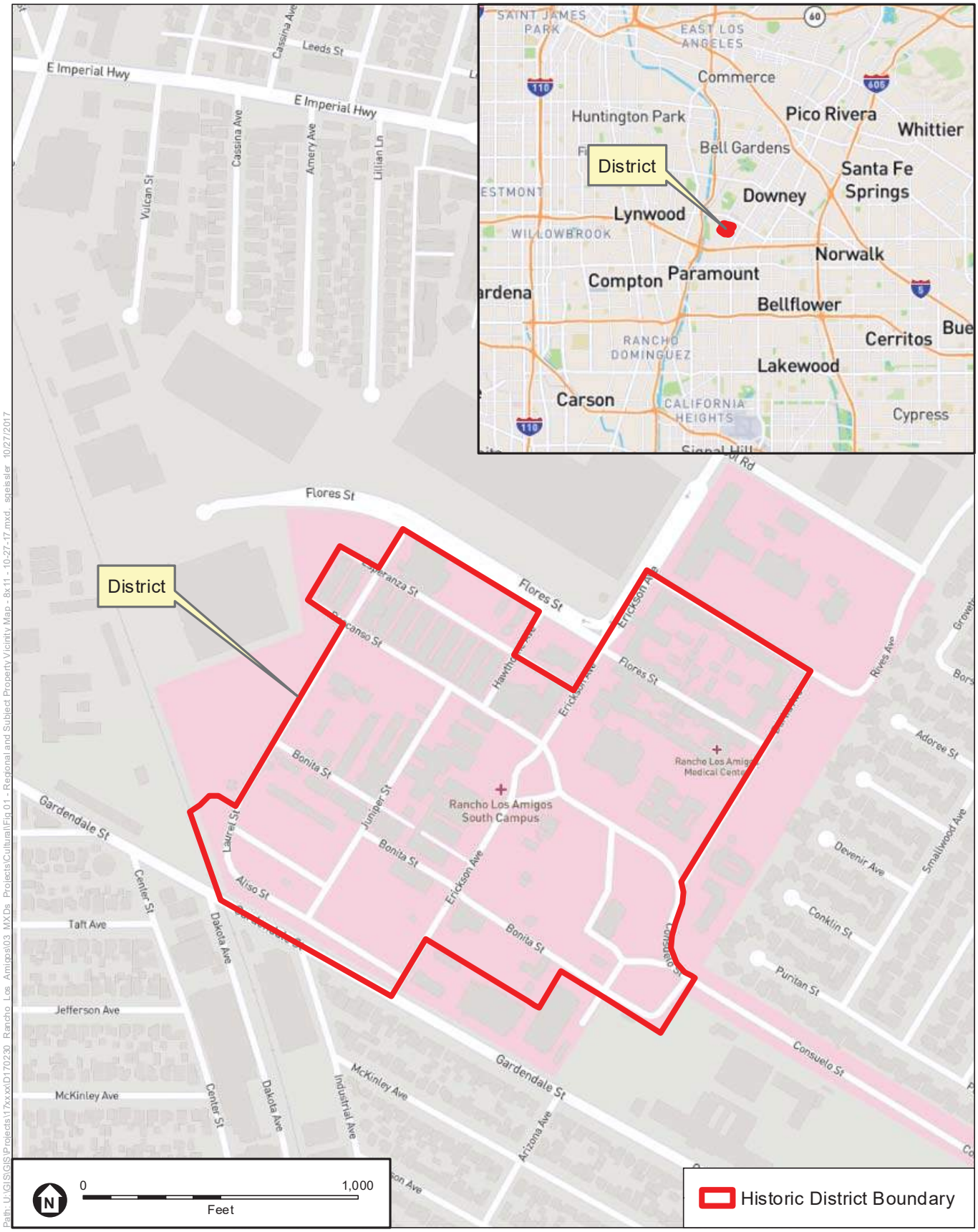

SOURCE: Open Street Map, 2017.

Figure 1
Regional and Subject Property Vicinity Map

ESA

SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 2
Aerial Photograph of Subject Property and Vicinity

ESA

SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 35

Contributors and Non-Contributors Map (ESA, 2017)

ESA

***Recorded by:** *Rebecca L. Silva, Sapphos Environmental, Inc.* ***Date:** *June 2, 2008* ☐ **Continuation** ☒ **Update**

This is an update to two previous surveys:

1 **Resource Identifier:** *Rancho Los Amigos Medical Center* **CHR Status Code:** *2D2*
McAvoy, Christy J. 1994 Northridge Earthquake Project Review: Rancho Los Amigos Medical Center: Survey of Earthquake Damaged Properties for Purposes of Section 106 Review. Historic Resources Group. 26 July 1995

2. **Resource Identifier:** *LACO #1300 and 1302* **NR Status Code:** *3*
Post/Hazeltine Associates. Intensive Historic Structures/Sites Survey for the South Campus of Rancho Los Amigos Rehabilitation Center, Los Angeles County, California. 19 March 2004.

***P3a. Updated Description:**

An assemblage of three connected buildings, the Historic Power Plant (LACO Nos. 1300 & 1302) is located on the northwest corner of Erickson Avenue and Descanso Street. The building is composed of three cubic volumes (1909 Shop, Laundry, Ice Plant, the 1911 Addition, and 1925 Power Plant), which loosely define an L-shaped plan. The 1909 Shop, Laundry, Ice Plant and 1911 Addition, both one-story in height and designed in the Brick Vernacular style, comprise the longer, western leg of the "L." The 1925 Power Plant building, the equivalent of two-stories in height and designed in the Classical Revival style, forms the shorter leg. All three buildings are constructed of brick, which is currently painted. A freestanding concrete chimney, constructed in association with the 1925 Power Plant, is located within the courtyard formed by the L. Rising 140 feet, the chimney tapers toward the top and is finished with vertical fluting. Also in the courtyard, a steel water tower (LACO No. 1301) is documented on separate inventory form.

Flat roofs hidden by parapets top the 1909 and 1911 buildings. Steel-framed skylights illuminate the interior of each space. A circa 1933 wooden water cooling tower sits on the roof of the 1909 Shop, Laundry, Ice Plant.

(See Continuation Sheet 2 of 3.)

P5a. Photo or Drawing (**Photo required for buildings, structures, and objects.**)

P5b. Description of Photo: (**View, date, accession #**) *East and North Elevations, Facing Southwest, January 29, 2007*

***P6. Date Constructed/Age and Sources:** *1909 Shop, Laundry, Ice Plant, 1911 Addition, 1925 Power Plant, according to historic aerial photographs, and Fliedner, Colleen Adair. 1990. Centennial, Rancho Los Amigos Medical Center, 1888-1988. Downey, California: Rancho Los Amigos Medical Center.*

***P8. Recorded by:**
Rebecca L. Silva
Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, California 91107

***P9. Date recorded:**
June 2, 2008

***P10. Survey Type:** (Describe)
Intensive Survey Update

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") *Sapphos Environmental, Inc., June 2010. Rancho Los Amigos Historic District Update Report, Prepared for the County of Los Angeles.*

***P3a. Updated Description (continued):**

Both the parapets and a frieze are defined by raised and corbelled brick courses. Fenestration on these two buildings consists primarily of single and paired, wood- framed, six-over-six double hung sash windows. Flat-headed, the windows are set into segmental arched openings, with lintels defined by three rows of header bricks and sills by single rows of raised bricks. Original entries located on the south elevation also have segmented arched heads and contain single and double wood doors topped by transoms. A flat-headed metal rollup door on the south elevation of the 1909 wing does not appear to be original. The secondary north elevation of these two buildings are spanned by an attached canopy that shades a band of windows. On the northwest corner, a non-original steel shed has been attached to the complex.

Symmetry characterizes the Classical Revival design of the 1925 Power Plant, with nearly identical three-bay facades facing north and south and thirteen bays spanning the east (Erickson Avenue) elevation. Wrapped by a continuous parapet, the flat roof is bisected by a monitor roof wrapped in a continuous band of steel-framed multi-light windows. Stepped parapets terminate the north and south ends of the monitor. Beneath the parapets, a projecting and tops a molded frieze. The central three bays of the east elevation are given a temple-front treatment, with four raised pilasters carrying a pediment whose tympanum is incised with the year of construction, 1925. Double-door entries are located in the central bays on the east, north and south elevations. The remaining bays are occupied by large, flat-headed, multi-light industrial sash windows. The west elevation is partially adjoined by the 1909 Shop, Laundry, Ice Plant; openings on this elevation are limited to four large, steel-framed multi-light windows that appear at the northern end of the wing, an additional window set high-up at the south end of the wing, and two double doors onto the courtyard.

Vestiges of landscaping remain along the east elevation and include strategically placed palm trees. The other street elevations are set directly on the sidewalk, with no planting areas. Weeds and bushes, by design or by accident, are located near the base of the water tower in the paved courtyard. The property is in deteriorated condition.

B6. Updated Construction History: (Construction date, alterations, and date of alterations)

No building permits were found for this building. Only the architectural drawings for the 1925 Power Plant building were located. Alterations and alteration dates as they can be derived from examination of historic photographs and architectural drawings include: the removal or breakage of original windows; the replacement of original wood doors with metal doors; the addition of a metal clad enclosure on the northwest corner of the 1911 Addition; and the addition of an awning attached to the north elevation (rear) of the 1909 Shop, Laundry, Ice Plant.

***B10. Updated Significance:**

This property was determined eligible for listing in the National Register of Historic Places under Criterion A as a contributor to the Rancho Los Amigos Historic District on September 30, 1996. It is therefore also listed in the California Register of Historical Resources under Criterion 1. The current study confirmed the significance of Historic Power Plant (LACO Nos. 1300 and 1302) as a contributor to the Historic District under Criterion A/1,association with events that have made a significant contribution to the broad patterns of local or regional history. The property is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The buildings were erected from 1909 to 1925 to provide power for the medical and agricultural activities of the Los Angeles County Poor Farm. The original 1909 Shop, Laundry, Ice Plant was an extension of the City of Downey Power Plant and was constructed and opened at the same time. The evolution and expansion of the facility are indicative of the growth of the Los Angeles County Poor Farm over time and its increased need for more self-sustaining power.

Exterior alterations to the buildings are relatively minor. An interpretation of the Brick Vernacular and Classical Revival Styles, the Historic Power Plant retains integrity of location, feeling, association, design, materials, and workmanship. Most of its character-defining features are intact, including: brick construction and architectural trim; flat roofs with encircling parapets; segmental arched openings; Classical Revival treatment of the north, south, and east elevations of the 1925 building; rooftop features including skylights, cooling tower, and monitor; original double-hung and industrial sash windows; original wood doors and transoms (where extant); and freestanding chimney.

(See Continuation Sheet 3 of 3.)

***B10. Updated Significance (continued):**.

History:

Established in 1888, the Los Angeles County Poor Farm is an important institution in the public welfare and health care history of the County of Los Angeles. The County Poor Farm was built to provide a publicly-funded facility to house indigents with the Los Angeles County hospital system. In its role as a farm, the County Poor Farm supplied agricultural products to other Los Angeles County institutional facilities during the first half of the 20th century. Beginning in 1907 with the construction of the psychiatric wards, the County Poor Farm began to transition away from the provision of indigent care and focus instead on the treatment of patients with chronic medical and/or psychiatric conditions. By 1952, the former County Poor Farm, renamed Rancho Los Amigos in 1932, had evolved into a medical hospital that specialized in the rehabilitative care of persons with physical disabilities, and was especially associated with the treatment of polio. By the end of 20th century, the Historic District had been largely vacated (except for storage), in favor of newer hospital buildings built north of the Historic District.

Several buildings on the South Campus as it exists today date back to the first decade of the 20th century. The first portion of the Power Plant Complex, built in 1909, was among the numerous buildings constructed during that period. A one-story brick building displaying the utilitarian vernacular typical of commercial and industrial architecture of the time, the original powerhouse comprises the east wing of LACO No. 1300. Two years later, in 1911, a one-story addition in the same brick vernacular style was constructed west of the original powerhouse; this is the west wing of LACO No. 1302. The addition housed the campus laundry. A freestanding Water Tower (LACO No. 1301) was erected north of the building in 1913; the tower and tank of are of steel construction and have a capacity of 100,000 gallons.

The County Poor Farm continued to expand, with new buildings that marked a shift in its mission from poor farm to hospital, during the 1910s and 1920s. By 1925, additional power generation capabilities were needed, and a new, larger power plant was built to accommodate expected growth over the next quarter century. Two-stories in height, with monumental Classical Revival detailing, the new building was attached to the east end of the 1909 Original Building, which then was converted into an ice house and machine shop. The freestanding Chimney, located next to the Water Tower, was built concurrently with the new power plant. Sometime between 1933 and 1936, a large wooden Water Cooling Tower was built on the roof of the ice house. In 1966, the steam transfer building (LACO No. 5548) was constructed north of the Complex, which, as in most buildings on the South Campus by that time, was relegated to a secondary role of support facility and storage.

***Resource Name or #** (Assigned by recorder) *Water Tower (LACO NO. 1301)*

***Recorded by:** *Rebecca L. Silva, Sapphos Environmental, Inc.* ***Date:** *June 2, 2008* ☐ **Continuation** ☒ **Update**

This is an update to two previous surveys:

1 **Resource Identifier:** *Rancho Los Amigos Medical Center* **CHR Status Code:** *2D2*
McAvoy, Christy J. 1994 Northridge Earthquake Project Review: Rancho Los Amigos Medical Center: Survey of Earthquake Damaged Properties for Purposes of Section 106 Review. Historic Resources Group. 26 July 1995

2. **Resource Identifier:** *LACO #1301* **NR Status Code:** *3*
Post/Hazeltine Associates. Intensive Historic Structures/Sites Survey for the South Campus of Rancho Los Amigos Rehabilitation Center, Los Angeles County, California. 19 March 2004.

***P3a. Updated Description:**

One of three vertical projections that characterize the Historic Power Plant complex, the Water Tower (LACO No.1301) is located in the courtyard formed by the 1909-1911 Shop, Laundry, and Ice Plant (LACO No. 1302) and the 1925 Power Plant (LACO No. 1300). The Water Tower is a freestanding steel trellis structure, standing 125 feet tall and crowned by a 100,000-gallon capacity, bullet shaped, metal holding tank. Currently not in use, the structure is in fair condition.

(See Continuation Sheet 2 of 2.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) *View of Water Tower from the south, January 29. 2007*

***P6. Date Constructed/Age and Sources:** *Circa 1913, according to historic aerial photographs, and Fliedner, Colleen Adair. 1990. Centennial, Rancho Los Amigos Medical Center, 1888-1988. Downey, California: Rancho Los Amigos Medical Center.*

***P8. Recorded by:**
Rebecca L. Silva
Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, California 91107

***P9. Date recorded:**
June 2, 2008

***P10. Survey Type:** (Describe)
Intensive Survey Update

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") *Sapphos Environmental, Inc., June 2010. Rancho Los Amigos Historic District Update Report, Prepared for the County of Los Angeles.*

***Resource Name or #** (Assigned by recorder) *Water Tower (LACO NO. 1301)*

***Recorded by:** *Rebecca L. Silva, Sapphos Environmental Inc.* ***Date:** *June 2, 2008* ☐ **Continuation** ☒ **Update**

***B6. Updated Construction History:** (Construction date, alterations, and date of alterations)

No building permits or architectural drawings were found for this structure. Comparison of historic photographs with the current appearance of the Water Tower suggest that there have not been any alterations to the structure.

***B10. Updated Significance:**

This property was determined eligible for listing in the National Register of Historic Places under Criterion A as a contributor to the Rancho Los Amigos Historic District on September 30, 1996. It is therefore also listed in the California Register of Historical Resources under Criterion 1. The current study confirmed the significance of the Water Tower (LACO No. 1301) as a contributor to the Historic District under Criterion A/1,association with events that have made a significant contribution to the broad patterns of local or regional history. The property is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The structure was erected in 1933 to provide a water holding tank for the Power Plant of the Los Angeles County Poor Farm. The structure continued to serve in that capacity until the Power Plant was no longer operating. Visible from the surrounding community, the Water Tower also serves a placemarker in the urban landscape.

The Water Tower has no alterations and still reflects its period of construction. It retains integrity of location, feeling, association, design, materials, and workmanship. The structure has retained the character-defining features of a water holding tank, which include the bullet-shaped tank and freestanding steel trellis support structure. Its setting has been altered through the deterioration of the Historic Power Plant and the surrounding landscape.

History:

Established in 1888, the Los Angeles County Poor Farm is an important institution in the public welfare and health care history of the County of Los Angeles. The County Poor Farm was built to provide a publicly-funded facility to house indigents with the Los Angeles County hospital system. In its role as a farm, the County Poor Farm supplied agricultural products to other Los Angeles County institutional facilities during the first half of the 20th century. Beginning in 1907 with the construction of the psychiatric wards, the County Poor Farm began to transition away from the provision of indigent care and focus instead on the treatment of patients with chronic medical and/or psychiatric conditions. By 1952, the former County Poor Farm, renamed Rancho Los Amigos in 1932, had evolved into a medical hospital that specialized in the rehabilitative care of persons with physical disabilities, and was especially associated with the treatment of polio. By the end of 20th century, the Historic District had been largely vacated (except for storage), in favor of newer hospital buildings built north of the Historic District.

State of California □ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #19-189330_
HRI #
Trinomial
NRHP Status Code
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 **of** 84 ***Resource Name or #:** (Assigned by recorder) Rancho Los Amigos Historic District
P1. Other Identifier: Los Angeles County Farm, Rancho Los Amigos Medical Center
***P2. Location:** □ **Not for Publication** □ **Unrestricted**
***a. County** Los Angeles County **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** South Gate **Date** _____ **T** 3S ; **R** 12W ; __ □ **of** __ □ **of Sec** __; ____**B.M.**
c. Address 7601 E Imperial Highway City Downey Zip _____
d. UTM: (Give more than one for large and/or linear resources) Zone __, _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
See District Record.

***P3b. Resource Attributes:** (List attributes and codes) HP2, HP4, HP9, HP11, HP12, HP13, HP16, HP28, HP33, HP41,
***P4. Resources Present:**
□ Building □ Structure □ Object □ Site ☒ District □ Element of District
☒ Other (Isolates, etc.)
P5b. Description of Photo: (view, date, accession #) Primary elevation of Casa Consuelo (women's ward) located near the district's eastern boundary, view to the west, 2017.

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

***P6. Date Constructed/Age and Source:** ☒ Historic □ Prehistoric □ Both
1888-1952
***P7. Owner and Address:**
Los Angeles County
500 W. Temple Street
Los Angeles, CA 90012
***P8. Recorded by:** (Name, affiliation, and address) Margarita Jerabek, Ph.D.
Environmental Science Associates
626 Wilshire Blvd. #1100
Los Angeles, CA 90017
***P9. Date Recorded:** 9/22/2017
***P10. Survey Type:** (Describe)
Intensive pedestrian
***P11. Report Citation**: (Cite survey report and other sources, or enter "none.")
Margarita Jerabek, Ph.D., et al., ESA, *Rancho los Amigos South Campus, County of Los Angeles, City of Downey, California: Historic District Analysis Report.* Prepared for the County of Los Angeles. Report currently in preparation

***Attachments:** □NONE ☒Location 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) Rancho Los Amigos Historic District

D1. Historic Name: Los Angeles County Farm D2. Common Name: Rancho Los Amigos Medical Center

*D3. Detailed Description (Discuss overall coherence of the district, its setting, visual characteristics, and minor features. List all elements of district.): The Rancho Los Amigos Historic District is an institutional district located in Los Angeles County, in the southwest portion of the town of Downey. The district contains 108 buildings, structures, and features. Development in the district is primarily institutional, containing mostly one- and two story patient wards, surrounded by support and administrative facilities. While the property first began operating as a poor farm in 1888, the majority of the buildings that remain on the property were constructed between 1907 and 1932 and were largely designed in the Renaissance Revival style and brick vernacular, although the district also exhibits examples of Craftsman, Neoclassical Revival, Spanish Colonial Revival, and modest utilitarian buildings. Of the 108 buildings, structures, and features, 62 are contributors to the district and 46 are non-contributors due to extensive alterations or construction outside the period of significance. The contributing buildings represent seven different building types including Administration and Staff Buildings, Patient Wards, Dining and Social Facilities, Utilities, Agricultural and Occupational Therapy Facilities, Maintenance and Support Buildings, and Landscape Features. The district occupies flat terrain with streets generally arranged in a grid pattern. Streets within the district include Consuelo Street, Bonita Street, Descanso Street, Esperanza Street, and Flores Street. The streets feature concrete curbs and sidewalks with landscaped parkways and original lampposts. A landscaped traffic circle occupies the intersection of Consuelo Street, and Erickson Avenue. (See Continuation Sheets)

*D4. Boundary Description (Describe limits of district and attach map showing boundary and district elements.): The district is bounded by Golondrinas Street, Erickson Avenue, and Flores Street to the north, Dahlia Avenue, Consuelo Street, and Bonita Street to the east, Bonita Street, Erickson Avenue, and Aliso Street to the south, and Laurel Street to the west.

*D5. Boundary Justification: it is recommended that the District's boundary be expanded near the southeast corner to include the entirety of the Site Plan, which was overlooked by previous evaluations. The new District boundary encompasses additional portions of Consuelo Street, Bonita Street, and Dalia Avenue and the associated landscape areas east of the Administration Building (LACO No. 1100). These elements of Rancho Los Amigos' site plan contribute to the District's character and setting and continue to exhibit a high level of integrity from the period of significance. The new District boundary follows the natural contours of the landscape and would contain the contiguous grouping of 62 buildings and features contributing to the district's significant association with healthcare in Los Angeles County during the late nineteenth and early twentieth centuries.

D6. Significance: Theme Public Health; Housing the Poor in California Area Los Angeles County
Period of Significance 1888-1952 Applicable Criteria National Register Criteria A and C, California Register Criterion 1, and Los Angeles County Criteria 1 and 5
(Discuss district's importance in terms of its historical context as defined by theme, period of significance, and geographic scope. Also address the integrity of the district as a whole.)

The Rancho Los Amigos South Campus was first developed by the County of Los Angeles in 1888. Nearly thirty years earlier, the State of California's legislature enacted requirements that county governments should perform all acts necessary to the county welfare. This decision eventually led to the California "Poor Law of 1855," which made the care of the aged and needy the responsibility of local governments. Los Angeles County's obligation to provide for the poor and its growing indigent population resulted in significant overcrowding of the County Hospital. In 1888, the County opened a poor farm on the subject property, near the outskirts of the newly established town of Downey. Initially, the poor farm housed the elderly or those suffering minor illnesses and physical disabilities, relieving the overcrowded County Hospital. By the late nineteenth century, it had become common place for county governments throughout the country to operate almshouses, poorhouses, or poor farms. The concept of the almshouse, dating back to the early history of the British Colonies, had changed very little up until the late nineteenth century. (See Continuation Sheets.)

*D7. References (Give full citations including the names and addresses of any informants, where possible.):
(See continuation sheets.)

*D8. Evaluator: Margarita Jerabek, et al, ESA Date: 9/22/2017

Affiliation and Address: ESA, 626 Wilshire Blvd. #1100, Los Angeles, CA 90017

D4. Description Continued:

The South Campus achieved its present appearance during the Development of Rancho Los Amigos Era (1907-1932), which began with the construction of the first patient ward (LACO No. 1205) in 1907 on the east side of Erickson Avenue; this signified the start of the Los Angeles County Poor Farm's transition to a long-term care medical facility. In 1913, in response to growing utility needs, the Water Tower (LACO No. 1301) was erected. It was not until 1925, however, that the current Power Plant was erected (LACO No. 1300).

Three major groupings of patient wards were created on the subject property. Each grouping contained wards featuring identical or very similar designs. The first grouping, comprised of four U-shaped psychiatric wards, was established at the northeast corner of the subject property, beginning with the erection, as mentioned above, of LACO No. 1205 (Men's Psychiatric Ward). LACO No. 1205 originally featured a rectangular plan; in 1909, however, the north and south wings were added, altering its original footprint to a U-shape. In 1916, the north and south wings were further elongated; in the process, each wing received a two-story addition (the second story served to house attendants) and a one-story addition (additional ward space). A cafeteria addition was also made to the center of LACO No. 1205 in 1916. The new U-shape of LACO No. 1205 was replicated three additional times on the subject property. In 1919, LACO No. 1203 (Women's Psychiatric Ward), a smaller U-shaped ward, was erected immediately to the south of LACO No. 1205. In 1924, two additional wards mirroring the plans of LACO Nos. 1205 and 1203 were added, completing the grouping: LACO No. 1204 (Men's Psychiatric Ward) and LACO No. 1204 (Women's Psychiatric Ward).

The second grouping, consisting of five identical two-story general wards, was established on the west side of Erickson Avenue, just north of its southern terminus, beginning with the construction of LACO Nos. 1184 and 1185 in 1913. LACO No. 1186 (built in 1916), LACO No. 1187 (built in 1926), and LACO No. 1188 (built in 1928) were subsequently added to the south, completing the row of wards.

Finally, the third grouping, comprised of thirteen patient wards designed as cottages, each with a similar design. The grouping is situated on the north side of Descanso Street, at the northwestern corner of the subject property. This grouping included nine patient wards on the east side of Laurel Street, connected by a long verandah along their primary (south) elevations, and four additional patient wards on the west side of Laurel Street, also unified by a verandah fronting their primary (south) elevations. The patient wards were constructed in three phases. The first phase included the construction of LACO Nos. 1189, 1190, 1191, and 1192 in 1923. During the second phase in 1926, LACO Nos. 1193, 1194, and 1195 were built. Finally, in 1928, as part of the third phase, LACO Nos. 1196, 1197, 1198, and 1199 were added. LACO Nos. 1200 and 1201 were also erected during the late 1920s at the end (east side) of the row of patient wards; however, they were demolished between 1994 and 2003 according to aerial photographs.

In response to the growing number of female patients, a women's ward was constructed at an unknown date before 1926, based upon an aerial photograph, directly to the south of LACO No. 1203. This ward was demolished between 1963 and 1974, according to aerial photographs. Another women's ward, LACO No. 1238 (Casa Consuelo), was designed by architect Karl Wilhelm Muck and constructed in 1930 to the south of LACO No. 1202 (Women's Psychiatric Ward).

In 1907, a single-family residence designed by architect George Low was erected in the area below LACO No. 1205, on the south side of Consuelo Street, for the Superintendent and his family: LACO No. 1101 (Harriman/Superintendent's House). William R. Harriman, who served as Superintendent from 1915 to 1952, took up residence there. During the Development of Rancho Los Amigos Era (1907-1932), the subject property's administrative center shifted to the vicinity of LACO No. 1101, on the south side of Consuelo Street. The demolition of the original Office Building on the subject property, as described earlier, coincided with the construction of a new administration building overlooking Consuelo Street in 1926: LACO No. 1100 (Administration/Safety Police Building).

In 1908, a chapel (LACO No. 1254) designed by architectural firm Hudson & Munsell was constructed on the east side of Erickson Ave, north of LACO No. 1101 and directly to the south of LACO No. 1205. In 1919, LACO No. 1254 was relocated further to the south to make way for LACO No. 1203 (Women's Psychiatric Ward). Following the erection of the chapel, several more social, as well as dining, facilities were constructed on the subject property for patient use. In 1912, just south of the Poor Farm's original core, the Commissary and Receiving Room (LACO No. 1263) was built; the following year, the Dining Room, Kitchen, and Staff Room (LACO No. 1262) designed by architectural firm Hudson & Munsell was attached to it (LACO No. 1263 underwent several additions until 1926 when it attained its current appearance). In 1928, Amigos Hall (LACO No. 1266), designed by architect Karl Wilhelm Muck, was built just north of the original poultry yards. During the same year, the Auditorium (LACO No. 1261), designed by architect Karl Wilhelm Muck, was erected on the site which the original Dining Hall (Refectory) formerly occupied. Finally, in 1932, Bonita Hall (LACO No. 1264), designed by architect Edward C. N. Brett, was added just south of LACO No. 1262.

The subject property's agricultural functions continued through the 1920s, as marked by the construction of the Broder House/Vivarium (LACO No. 1335) in 1929 in the poultry yard established at the southeast corner of the subject property. In 1923, horse stables (LACO No. 1283) designed by architect George Low were erected on the east side of Erickson Avenue, just north of that street's south end. After the Long Beach earthquake of 1933, LACO No. 1283 (Trunk Storage), which was extensively damaged, underwent substantial alteration, with the removal of its second story. In the 1920s, the area to the west of Juniper Street was improved with several buildings and structures associated with occupational therapy. For example, in 1925, the Work Preparation Center (LACO No. 1207) was constructed immediately to the west of LACO No. 1262 (Dining Room, Kitchen, Staff Room).

Whereas William R. Harriman resided near the new administration center along Consuelo Street, staff were quartered at the northwest corner of the subject property. By 1926, according to an aerial photograph, several staff cottages occupied this area. One staff housing block was situated in the area presently bound by Erickson Avenue to the east, Hawthorne Avenue to the west, and Descanso Street to the south. This block was improved with fifteen staff cottages (three duplexes and twelve single-family dwellings) set behind landscaped front yards and arranged in two rows; eight overlooked Erickson Avenue while seven fronted Hawthorne Avenue. A second staff housing block sat directly to the west of the aforementioned block, occupying the area at the southeast corner of Hawthorne Avenue and Flores Street. This second block consisted of four staff cottages designed by Parker Orasmus Wright, Jr., each containing four staff living units. In 1927, the Kitchen and Dining Building (LACO No. 1295), intended for staff, was constructed to the east of the second staff housing block. Of all the staff cottages, only two remain on the subject property: LACO Nos. 1121 (built in 1921) and 1123 (built in 1924). The other staff cottages were gradually demolished after 1963, according to aerial photographs.

Under the direction of Harriman, the Los Angeles County Poor Farm changed its name to Rancho Los Amigos in 1932. During the 1920s, Erickson Avenue became the primary entry to the South Campus due to

its connection with Imperial Highway to the north, a major east-west transportation corridor in the surrounding area.

By 1933, Rancho Los Amigos had completed its transition from a poor farm to a long-term care medical facility under the continued direction of William R. Harriman, and was fully developed. There was very little site development between 1933 and 1952, with only a few buildings erected during this time, including the Lumber Shed (LACO No. 954), Landscape Office (LACO No. 1357), and Post Office (LACO No. 2677).

CONTRIBUTING BUILDINGS AND FEATURES

LACO No.	Building Name	P-Number	Date of Construction
LACO No. 1100	Administration/Safety Police Building	19-189333	1926
LACO No. 1121	Staff Cottage	19-189335	1921
LACO No. 1123	Staff Cottage	19-189336	1924
LACO No. 1137	Dairyman's House	19-189337	1907
LACO No. 1179	Dairyman's Garage	19-189340	1926
LACO No. 2677	Post Office	-	1949
LACO No. 1205	Men's Psychiatric Ward	19-189360	1907
LACO No. 1184	General Ward 30	19-189341	1913
LACO No. 1185	General Ward 40	19-189342	1913
LACO No. 1186	General Ward 50	19-189343	1916
LACO No. 1203	Women's Psychiatric Ward	19-189359	1919
LACO No. 1260	Bathhouse and Ward	19-189377	1922
LACO No. 1187	General Ward 60	19-189344	1926
LACO No. 1238	Casa Consuelo	19-189362	1930
LACO No. 1204	Men's Psychiatric Ward	19-189360	1924
LACO No. 1202	Women's Psychiatric Ward	19-189359	1924
LACO No. 1188	General Ward 70	19-189345	1928
LACO No. 1244	Toilet Room	19-189368	1916
LACO No. 1242	Toilet Building	19-189366	1920
LACO No. 1247	Toilet Building	19-189371	1925
LACO No. 1256	Toilet Building	19-189375	1925
LACO No. 1239	Toilet Building	19-189363	1930
LACO No. 1241	Linen Room	19-189365	1932
LACO No. 1189	Patient Ward 201	19-189346	1923
LACO No. 1190	Patient Ward 202	19-189347	1923
LACO No. 1191	Patient Ward 203	19-189348	1923
LACO No. 1192	Patient Ward 204	19-189349	1923
LACO No. 1193	Patient Ward 205	19-189350	1926
LACO No. 1194	Patient Ward 206	19-189351	1926
LACO No. 1195	Patient Ward 207	19-189352	1926
LACO No. 1196	Patient Ward 208	19-189353	1928
LACO No. 1197	Patient Ward 209	19-189354	1928
LACO No. 1198	Patient Ward 210	19-189355	1928
LACO No. 1199	Patient Ward 211	19-189356	1928
LACO No. 1263	Commissary and Receiving Room	19-189379	1912
LACO No. 1262	Dining Room, Kitchen, Staff Room	19-189379	1913-1926
LACO No. 1261	Auditorium	19-189378	1928
LACO No. 1312	Aviary	19-189397	1888 (Relocated c. 1924)
LACO No. 1254	Chapel/Computer Center	19-189374	1908
LACO No. 1295	Kitchen and Dining Building	19-189394	1927
LACO No. 1264	Bonita Hall	19-189380	1932
LACO No. 1301	Water Tower	19-189396	1913
LACO No. 1302	Shop, Laundry, Ice Plant	19-189395	1909-1911
LACO No. 1300	Power Plant	19-189395	1925
LACO No. 1207	Work Preparation Center	19-189361	1925*
LACO No. 1283	Trunk Storage	19-189391	1923
LACO No. 1335	Brooder House/Vivarium Annex	19-189400	1929
LACO No. 1276	Lock Shop	19-189386	1913
LACO No. 1275	Workshop	19-189385	1917
LACO No. 1278	Garage and Storage	19-189388	1924

LACO No. 1277	Garage	19-189387	1925*
LACO No. 1279	Garage	19-189389	1925*
LACO No. 1356	Tool House	19-189402	1926
LACO No. 1280	Garage/Storage	19-189390	1928
LACO No. 1268	Storage	19-189382	1932
LACO No. 1270	Garage	19-189383	1932
LACO No. 1357	Landscape Office	19-189403	1938
LACO No. 954	Lumber Shed	19-189332	1942
LACO No. 3348	Garbage Can Room	-	1951
LACO No. 1265	Shelter	19-189381	c. 1933*
None	Moreton Bay Fig Tree		c. 1900*
None	Site Plan		1888+

Notes:

*Date of construction is unclear

NON-CONTRIBUTING BUILDINGS AND FEATURES

LACO No.	Building Name	P-Number	Date of Construction
LACO No. 1101	Harriman/ Superintendent's House	19-189334	1915
LACO No. 1177	Superintendent's Garage	19-189338	1917
LACO No. 1178	Superintendent's Shed	19-189339	c.1917-1922
LACO No. 1245	Linen Room/Snack Bar No. 3	19-189369	1932
LACO No. 2434	Shed/Men's Gymnasium	-	1949*
LACO No. 2435	Patient Recreation Shed	-	1949
LACO No. 2436	Classroom Hut/Shed	-	1949
LACO No. 1266	Amigos Hall	-	1928
LACO No. 3592	Chapel	-	1953
LACO No. 1292	Pump House	-	1932
LACO No. 5548	Steam Plant	-	1966
LACO No. 5513	Electrical Station 18	-	Unknown
LACO No. 5793	Electrical Distribution Panel	-	Unknown
LACO No. 5798	Electrical Station 16	-	Unknown
LACO No. 5799	Electrical Station 4C	-	Unknown
LACO No. 5801	Generator House	-	Unknown
LACO No. 6223	Electrical Station	-	Unknown
LACO No. 6225	Electrical Station	-	Unknown
LACO No. 6407	Unknown	-	Unknown
LACO No. 1163	Generator House	-	Unknown
LACO No. 5547	200,000 Gallon Tank	-	1966
LACO No. 1284	Grain Tank	-	Unknown
LACO No. 1373	Grain Tank	-	Unknown
LACO No. 1374	Grain Tank	-	Unknown
LACO No. 1286	Garage/Storage	19-189392	1920
LACO No. 1464	Shed	-	1945*
LACO No. 2437	Metal Shed	-	1949
LACO No. 1287	Oil and Storage	19-189393	1909
LACO No. 1267	Transportation Office	-	1930
LACO No. 1259	Wheel Chair Repair	19-189376	1932
LACO No. 2492	Toilet Room	-	1948
LACO No. 3390	Prosthetic Shop	-	1953
LACO No. 3820	Loading Dock	-	1954
LACO No. 4121	Garage	19-189404	Post 1952*
LACO No. 1379	Garage	19-189404	Post 1952*
LACO No. 4118	Garage	19-189405	Post 1965
LACO No. 3368	Shed	-	Unknown
LACO No. 2494	Shed	-	Unknown*
LACO No. 1353	Greenhouse	-	Unknown*
LACO No. 1251	Open Shelter	19-189373	1916*
LACO No. 1243	Open Shelter	19-189367	1916*
LACO No. 1240	Shelter	19-189364	1930*
LACO No. 1246	Canopy	19-189370	1930*
LACO No. 1290	Shelter	-	1952*
LACO No. 3021	Bus Stop	-	Unknown

LACO No. 3022	Bus Stop	-	Unknown
LACO No. 7000	Butler Building	-	Unknown

Notes:

*Date of construction is unclear

D6. Significance Continued:

When the Los Angeles County Poor Farm opened, advancements in medicine and new laws governing the treatment of the sick and old aged, were beginning to result in significant changes to almshouses throughout the country. Development on the South Campus from its inception in 1888 as a poor farm to the subdivision of its former agricultural fields in the 1950s, reflects the changing attitude toward healthcare in Los Angeles County as well as the evolving medical trends in the United States and State of California. Initially, labor on the poor farm was intended to expose inmates (patients) to the medicinal qualities of California's mild climate. Produce from the agricultural programs was used to feed the inmate population, giving the poor farm the add added benefit of self-sustainability. Overtime, the agricultural fields were replaced with new patient wards, administration buildings, utilities, and maintenance buildings, while healing work in the fields was replaced by occupational therapy programs in workshops.

The history of the Los Angeles County Poor Farm and its evolution into a long-term healthcare facility (Rancho Los Amigos) during the late nineteenth and early twentieth century reflect the broader trends in medical history across the United States. Furthermore, the property's development over time illustrates the changing approaches healthcare and treatment of the indigent population in Los Angeles County. The South Campus of Rancho Los Amigos appears have a significant association with the broad patterns of our history and appears eligible as a historic district under the National Register Criterion A, California Register Criterion 1 and Los Angeles County Criterion 1.

National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation, identifies historic districts under Criterion C as "a significant and distinguishable entity whose components may lack individual distinction." The South Campus appears to be a significant entity (as previously discussed under Criteria A/1) with multiple components, many of which lack individual distinction. Therefore, the South Campus of Rancho Los Amigos does appear significant as historic district under National Register Criterion C.

In addition to being eligible under Los Angeles County Criterion 1, the District is eligible under Los Angeles County Criterion 5, which recognizes historic resources that have been formally listed or found eligible for listing on the National Register and/or California Register. The Rancho Los Amigos Historic District was formally listed on the California Register by the Keeper and determined eligible for the National Register following the initial survey completed in 1995 by Historic Resources Group (HRG).

The National Register and California Register recognizes a property's integrity through seven aspects or qualities: location, design, setting, materials, workmanship, feeling, and association. Eligible properties should retain several, if not most, of these aspects. Both registers require that a resource retain sufficient integrity to convey its significance, and the property must retain the essential physical features that enable it to convey its historical identity. The South Campus of Rancho Los Amigos was identified as significant under Criteria A/1 for its association with evolving medical care in Los Angeles County during the late nineteenth and early twentieth centuries. Based upon this significance finding, a period of significance has been identified as 1888, when the property began operation as the Los Angeles County Poor Farm, and 1952 when the former poor farm had fully converted into a long-term healthcare facility and most of the agricultural fields had been subdivided for residential development. Additionally, the property was

determined significant under National Register Criterion C as a significant and distinguishable entity whose components lack individual distinction (historic district).

Location

The South Campus has remained in its original location since it opened as the Los Angeles County Poor Farm in 1888. Therefore, the South Campus retains its integrity of location for the period of significance (1888-1952).

Design

When the South Campus was originally planned by the Los Angeles based architectural firm of Kysor, Morgan, and Walls in 1887, the intent was to build an agricultural institution. Initially conceived as the Los Angeles County Poor Farm, the South Campus was intended to provide food, shelter, and clothing to the County's indigent population. The four original buildings were centrally located among agricultural fields. Overtime, the South Campus expanded as the needs of the institution evolved. The agricultural fields receded as new patient wards were constructed alongside support and administration facilities. While the current conditions of the South Campus do not reflect the original design intent of Kysor, Morgan, and Walls, the changes that occurred to the property throughout the late nineteenth and early twentieth centuries are what make it significant. The changes to the South Campus reflect changing approaches to healthcare that were occurring locally as well as nationwide. The greatest period of change for the property occurred between 1907 and 1932, when XX buildings were constructed, many of which remain extant. Although they were not constructed based on a master plan developed by the sites original designers, they reflect the changing needs of the institution. The South Campus retains intact examples of each of the building types that were present throughout the period of significance (1888-1952). Therefore, the South Campus retains its integrity of design reflecting the evolution of the property throughout its transition from a poor farm to a long-term healthcare facility.

Workmanship

As stated previously, the South Campus developed over a period of time, transitioning from a poor farm into a long-term healthcare facility. Throughout the period of significance (1888-1952), new buildings and features were constructed to meet the evolving needs of the institution. These buildings and features reflect a variety of architectural styles and construction techniques based upon their purpose and date of construction. Currently the South Campus retains examples of a variety of architectural styles, including Craftsman, Neoclassical Revival, Spanish Colonial Revival, Renaissance Revival and brick vernacular, as well as utilitarian structures. Additionally, the South Campus retains 62 contributing buildings and features, constructed over a sixty-year period. These buildings and features, which remain intact and retain enough integrity to contribute to the District, reflect a wide variety of uses, construction techniques, and workmanship. Therefore, the South Campus retains integrity of workmanship.

Materials

The South Campus has suffered from deterioration of its original materials overtime. Despite the deterioration that has occurred, the contributing buildings found throughout the District retain their original materials including, wood, masonry, cast iron, concrete, and plaster. The contributing buildings represent each of the building types that were located on the property during the period of significance (1888-1952), reflecting the changes that occurred to the institution as it adapted to the healthcare needs of the County. In its current condition, the South Campus possesses the necessary materials to reflect its significance. Therefore, the South Campus retains its integrity of materials.

Setting

The historic setting of the South Campus has been altered significantly over time due to the subdivision of the former agricultural fields. Properties north of the South Campus have been redeveloped with warehouses and office buildings, while properties to the east were subdivided for residential development in the 1950s. Although these changes to the setting have removed the former poor farm from its agricultural setting, the changes reflect the property's transformation from a poor farm into a long-term healthcare facility. While the fields surrounding the former poor farm have been lost due to infill development, the immediate setting of the District and its contributors remains intact. The original circulation paths remain, reflecting the property's original layout during its inception in 1888. The District retains 62 contributing buildings and features, constituting a majority of the buildings present during the District's period of significance (1888-1952). Although the landscaping has evolved over time, the open areas throughout the District's interior remain without infill development, reflecting the conditions of the property during the period of significance. While the broader setting outside of the District has been altered by infill development, the immediate setting that contributes to the District's significance remains intact. Therefore, the District retains its integrity of setting.

Feeling

The District retains examples of the eight different building types that were present during the period of significance (1888-1952). Each of the building types contributed to the overall function of the institution. In addition to the contributing buildings, the District retains its original circulation paths and open landscape with very little infill development. With 62 contributing buildings and features reflecting a variety of uses, the South Campus continues to convey the feeling of an early twentieth century healthcare facility and retains its integrity of feeling.

Association

The South Campus continued to operate as a healthcare facility until the 1980s, when the County began to abandon the buildings. Currently, only the former Administration Building is in regular use. However, none of the contributing buildings, including the administration building, have been significantly altered for new uses. Therefore, because the contributing buildings continue to reflect their original healthcare related uses, the District retains its integrity of association.

Summary

The South Campus meets the National Register and California Register integrity requirements, retaining its integrity of location, design, workmanship, materials, setting, feeling, and association. The District remains in its original location since it opened as a poor farm in 1888. It has been identified as significant for its association with the evolving healthcare needs of Los Angeles County during the late nineteenth and early twentieth centuries. Although the District no longer reflects the original design intent of the architects as constructed in 1888, the changes that occurred to the property overtime have contributed to its significance. New buildings were added to the site overtime based on need and space available. Many of the buildings constructed during the period of significance (1888-1952) remain intact with little modification. The 62 contributing buildings, structures, and features represent eight different building types, reflecting their different uses and the overall function of the institution as it evolved into a long-term healthcare facility. Therefore, the District retains its integrity of design as it evolved over time. While some of the materials have deteriorated due to the abandonment of the site, the materials are intact and continue reflect the workmanship of the builders and designers at the time of their construction. The surrounding setting has changed significantly since the District was first developed as a poor farm. The former agricultural fields that

once surrounding the property have been subdivided for residential and commercial development. However, these changes reflect the property's significance as it evolved from a poor farm into a healthcare facility. The immediate setting within the district boundaries remains intact and continues to reflect the District's historic appearance. Consequently, the District retains its integrity of feeling as an early twentieth century healthcare facility, retaining key building types like the several patient wards and the administration building. The District retains integrity of association because the majority of the contributing buildings remain in the original condition. None of the buildings have been repurposed in a manner that resulted in substantial change. The property has been mostly abandoned for the last thirty years, with the exception of the Administration Building (LACO No. 1100), which has continued to operate as an office building. Therefore, the Rancho Los Amigos Historic District retains integrity of location, design, workmanship, materials, setting, feeling, and association.

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Additional Photographs

Overview of Aliso Street near intersection with Laurel Street, View facing Southeast (ESA, June 23, 2017)

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2017)
Dining/Social Facilities (cont.)	LACO No. 2436	Classroom Hut/Shed	1949	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
	LACO No. 3592	Chapel	1953	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
Utilities	LACO No. 1163	Generator House	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 1292	Pump House	1932	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 1300	Power Plant	1925	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1301	Water Tower	1913	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2017)
Utilities (cont.)	LACO No. 1302	Shop, Laundry, Ice Plant	1909-1911	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 7000	Butler Building	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5513	Electrical Station 18	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5547	200,000 Gallon Tank	1966	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5548	Steam Plant	1966	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5793	Electrical Distribution Panel	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	

Overview of LACO No. 1301 (Water Tower), View facing Southeast (ESA, June 21, 2017)

Overview of LACO No. 1302 (Shop, Laundry, Ice Plant), View facing North (ESA, June 21, 2017)

Overview of LACO No. 1300 (Power Plant), View facing West (ESA, June 21, 2017)

Overview of LACO No. 1207 (Work Preparation Center No. 2), View facing Northwest (ESA, June 20, 2017)

As-built, as-found, and archival (historic, original design and construction) drawings were not available. These drawings were prepared for a proposed project that has not yet been constructed. The selected drawings are included because the background information provides approximate location, configuration, and dimensions of the as-found buildings. Do not read these drawings for any information regarding scope and description of mothballing work.

1. Architectural Design Survey (civil site survey), by Hennon, 2005
2. A00.50, Site Plan, by Gensler, 2011
3. A01.01P, 1st Floor Demolition Plan, by Gensler, 2011
4. A01.03P, Roof Demolition Plan, by Gensler, 2011
5. A09.06, East and West Elevations, by Gensler, 2011
6. A09.05, North and South Elevations, by Gensler, 2011
7. A09.15, Building Sections, by Gensler, 2011
8. A09.17, Building Sections, by Gensler, 2011
9. A09.16, Building Sections, by Gensler, 2011
10. A09.18, Building Sections, by Gensler, 2011
11. A09.07, Courtyard Elevations, by Gensler, 2011
12. A11.06, Wall Elevations, by Gensler, 2011
13. A11.08, Wall Elevations, by Gensler, 2011
14. A11.09, Wall Elevations, by Gensler, 2011
15. A11.10, Wall Elevations, by Gensler, 2011
16. A11.07, Wall Elevations, by Gensler, 2011

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LEGAL DESCRIPTION:

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

LOT 4 OF TRACT NO. 45367, IN THE CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 1136, PAGE(S) 54 THROUGH 60 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM THAT PORTION OF SAID LOT 4 THOSE PORTIONS OF SAID LAND LYING WITHIN LOT 1 OF TRACT NO. 47470, IN THE CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 1156, PAGE(S) 58 THROUGH 63 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

ALSO EXCEPT THEREFROM THAT PORTION OF SAID LOT 4 LYING WITHIN PARCEL 1 OF PARCEL MAP NO. 25086, IN THE CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP FILED IN BOOK 284, PAGE(S) 98, 99 AND 100 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

TAX PARCEL NO. 6245-016-934

LEGEND:

A/C = ASPHALT
AC = AIR CONDITIONING UNIT
BW = BACK OF WALK
CATV = CABLE T.V. VAULT
CATVB = CABLE T.V. BOX
CB = CATCH BASIN
CE = CITY ENGINEER
CEFB = CITY ENGINEER FIELD BOOK
C/L = CENTERLINE
CM = CONCRETE NAIL
CONC = CONCRETE
CS MON= COUNTY SURVEYOR MONUMENT
DWY = DRIVEWAY
EMH = ELECTRIC MANHOLE
EPB = ELECTRIC PULL-BOX
EV = ELECTRIC VAULT
FB = FIELD BOOK
FDC = FIRE DEPT. CONNECTION
FFE = FINISH FLOOR
FH = FIRE HYDRANT
FL = FLOWLINE
GM = GAS METER
GP = GUARDPOST
GV = GAS VALVE
GVLT = GAS VAULT
HB = HOSE BIB
IDV = IRRIGATION CONTROL VALVE
IP = IRON PIPE MONUMENT
LACFCD= L.A. COUNTY FLOOD CONTROL DIST.
LD = SANITARY SEWER MANHOLE
LL = LANDSCAPE LIGHT
LP = LIGHT POLE
L&SPK = LEAD & SPIKE MONUMENT
L&T = LEAD & TACK MONUMENT
L&TAG = LEAD & TAG MONUMENT
MH = UTILITY MANHOLE
MW = MONITORING WELL
N&TAG = NAIL & TAG MONUMENT
PK = PK NAIL MONUMENT
P/L = PROPERTY LINE
PMT = PARKING METER
PP = POWER POLE
PRO = PRORATED
R/W = RIGHT-OF-WAY LINE
SDMH = STORM DRAIN MANHOLE
SL = STREET LIGHT
SLB = STREET LIGHT PULL BOX
SP = SPRINKLER
SP&T = SPIKE & TIN MONUMENT
SP&WW = SPIKE & WASHER MONUMENT
SSCO = SANITARY SEWER CLEAN OUT
SSDM = STANDARD SURVEY MONUMENT
SSMH = SANITARY SEWER MANHOLE
TBM = TEMP. BENCH MARK
TELC = TELEPHONE CABINET
TMH = TELEPHONE MANHOLE
TP = TELEPHONE POLE
TS = TRAFFIC SIGNAL
TSB = TRAFFIC SIGNAL PULL BOX
TVLT = TELEPHONE VAULT
TW = TOP OF WALL
WELL = WATER WELL VAULT
WI = WROUGHT IRON FENCE
WM = WATER METER
WMH = WATER MANHOLE
WV = WATER VALVE
WVLT = WATER VAULT
YL = YARDLIGHT

O = POST
Z = OVERHEAD WIRES
OLS = ORNIMENTAL LIGHT
S = SIGN

ALL BEARINGS AND DISTANCES SHOWN HEREON ARE FIELD MEASURED OR DERIVED FROM FIELD MEASUREMENTS UNLESS DENOTED AS THE FOLLOWING:

(XX.XX' TR) = RECORD DATA PER TRACT MAP NO.
(XX.XX' DD) = RECORD DATA PER DEED OF SUBJECT PROPERTY
(XX.XX' CO.EFB) = RECORD DATA PER COUNTY OF LOS ANGELES ENGINEER'S FIELD BOOK
(XX.XX' CSB) = RECORD DATA PER COUNTY OF LOS ANGELES SURVEYOR MAP NO.
(XX.XX' RS) = RECORD DATA PER RECORD OF SURVEY NO.

SURVEYOR'S STATEMENT:

THIS MAP CORRECTLY REPRESENTS A FIELD SURVEY MADE BY ME OR UNDER MY DIRECTION DURING 2005 & MARCH 2006 & DEC. 2008.

Robert D. Hennon

ROBERT DAVID HENNON, PLS 5573 (LIC. EXPIRES 9-30-09)

PROFESSIONAL LAND SURVEYOR ROBERT DAVID HENNON L.S. NO. 5573 EXP. 9-30-09 STATE OF CALIFORNIA

GRAPHIC SCALE
0' 15' 30' 60'

SURVEYOR'S NOTES:

1. THE BASIS OF BEARINGS FOR THIS MAP IS THE INVERSE OF THE STATE PLANE COORDINATES HELD FIXED BETWEEN POINTS 73 AND 70 PER RECORD OF SURVEY FILED IN BOOK 145 PAGE 49 TO 53 OF RECORD OF SURVEY IN THE OFFICE OF THE LOS ANGELES COUNTY RECORDER
2. ALL COORDINATE VALUES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE 5 BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83 1987) POINT NO. 70 BEING A 6" BOAT SPK & WASHER STAMPED "LS5557 6 PS 70" NEAR CENTERLINE INTERSECTION FLORES ST & LAUREL AVE. N.1,795,257.246, E 6511993.011 & POINT NO. 73 BEING A PUNCHED CUT SPK & WASHER NEAR CENTERLINE ERICKSON AVE. 5 FEET SLY OF ALISO ST. NO REF. N.1793587.812, E 6511957.755
3. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE COUNTY OF LOS ANGELES VERTICAL DATUM, 2000 ADJUSTMENT, PER THE FOLLOWING LOCAL BENCHMARK: LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS BM. NO. Y 7187 2000 ELEV= 96.319 FT " PK IN CB 1.5M E/O BCR @ SE COR IMPERIAL HWY & GARFIELD AVE. 12.2 M S & 16.8M E/O C/L INT."

RECORDED EASEMENTS AS DISCLOSED BY RECORD MAPS:

(H) EASEMENT 'H'
13' WIDE FIRE LANE EASEMENT SHOWN AS "RESERVED AND TO BE GRANTED BY SEPERATE INSTRUMENT" PER PARCEL MAP NO. 25086, PMB 284 PGS 98 TO 100 (PLOTTED PER SAID PARCEL MAP)

(I) EASEMENT 'I'
30' WIDE SIDEYARD EASEMENT SHOWN AS "RESERVED AND TO BE GRANTED BY SEPERATE INSTRUMENT" PER PARCEL MAP NO. 25086, PMB 284 PGS 98 TO 100 (PLOTTED PER SAID PARCEL MAP)

(J) EASEMENT 'J'
54' WIDE EASEMENT (ERICKSON AVE) &
62' WIDE EASEMENT (FLORES STREET) & 60' WIDE EASEMENT (LINK ROAD), BOTH PRIVATE AND FUTURE STREETS, GRANTED TO THE CITY OF DOWNEY FOR SANITARY SEWER, UNDERGROUND PUBLIC UTILITIES, WATER LINE, FIRE HYDRANT, FIRE LANE, WATER METER, VEHICULAR AND WALKWAY PURPOSES, PER PARCEL MAP NO. 25086, PMB 284 PGS 98 TO 100 (PLOTTED PER SAID PARCEL MAP)

(K) EASEMENT 'K'
42' WIDE EASEMENT (FLORES STREET) PRIVATE AND FUTURE STREET, GRANTED TO THE CITY OF DOWNEY FOR SANITARY SEWER, UNDERGROUND PUBLIC UTILITY, WATER LINE, FIRE HYDRANT, FIRE LANE, AND WATER METER PURPOSES, ALSO VEHICULAR AND WALKWAY, PER MAP OF TRACT NO. 47470, MB 1156 PGS 58 TO 64 (PLOTTED PER SAID TRACT MAP)

(L) EASEMENT 'L'
20' WIDE & VARIABLE WIDTH EASEMENT EASEMENT OF LA COUNTY FLOOD CONTROL DISTRICT FOR STORM DRAIN PURPOSES RECORDED 4-9-1959 O.R. D428-214, INST. NO. 3842. (PLOTTED PER TR. NO. 45367)

(P) EASEMENT 'P'
10' WIDE EASEMENT OF SO. CAL. GAS CO. FOR PUBLIC UTILITY PURPOSES PER O.R. M2004-853, REC. 10-7-1965 AS INST. NO. 4131 (PLOTTED PER TR. NO. 45367)

DON READ CORPORATION
501 MERCURY LANE, BREA, CALIFORNIA 92821
TEL (714) 529-9599
FAX (714) 529-2537
DRAFTING ● PHOTOGRAMMETRY ● REPRODUCTION ● CADMAPS

PHOTO DATE: 4-30-05 D. READ #05050

FOR REFERENCE ONLY

C1.00

IMPORTANT NOTE (DIAL 811):

WARNING! – THERE IS NO ASSURANCE THAT THE LOCATION OF SUBSTRUCTURES SHOWN ON THIS DRAWING ARE ACCURATE, OR THAT ALL EXISTING SUBSTRUCTURES ARE SHOWN ON THIS DRAWING. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL SUBSTRUCTURES WHETHER SHOWN OR NOT. ANY DAMAGE TO THE EXISTING SUBSTRUCTURES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. PRIOR TO EXCAVATIONS USA ALERT MUST BE CONTACTED BY DIALING 811 NATIONWIDE FOR FIELD LOCATION MARKINGS OF SUBSTRUCTURES.

BEFORE YOU DIG CALL 811 IT'S THE LAW!

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PROFESSIONAL LAND SURVEYOR ROBERT DAVID HENNON L.S. NO. 5573 EXP. 9-30-09 STATE OF CALIFORNIA

NO.	DATE	DESCRIPTION	BY
5	3-25-09	ADDED LEGAL DESCRIPTION	RDH
4	12-18-08	ADDITIONAL TOPO	RDH
3	12-5-08	ADDITIONAL TOPO	RDH
2	12-30-05	ADDITIONAL TOPO	RDH
1	12-30-05	POTHOLE & UTILITIES	RDH

THOMAS GUIDE:
LA CITY DIST. MAP: NA
ASS. PAR. NO. 6245-016-934
FILE: 2371.DWG
SURVEYED BY: HENNON

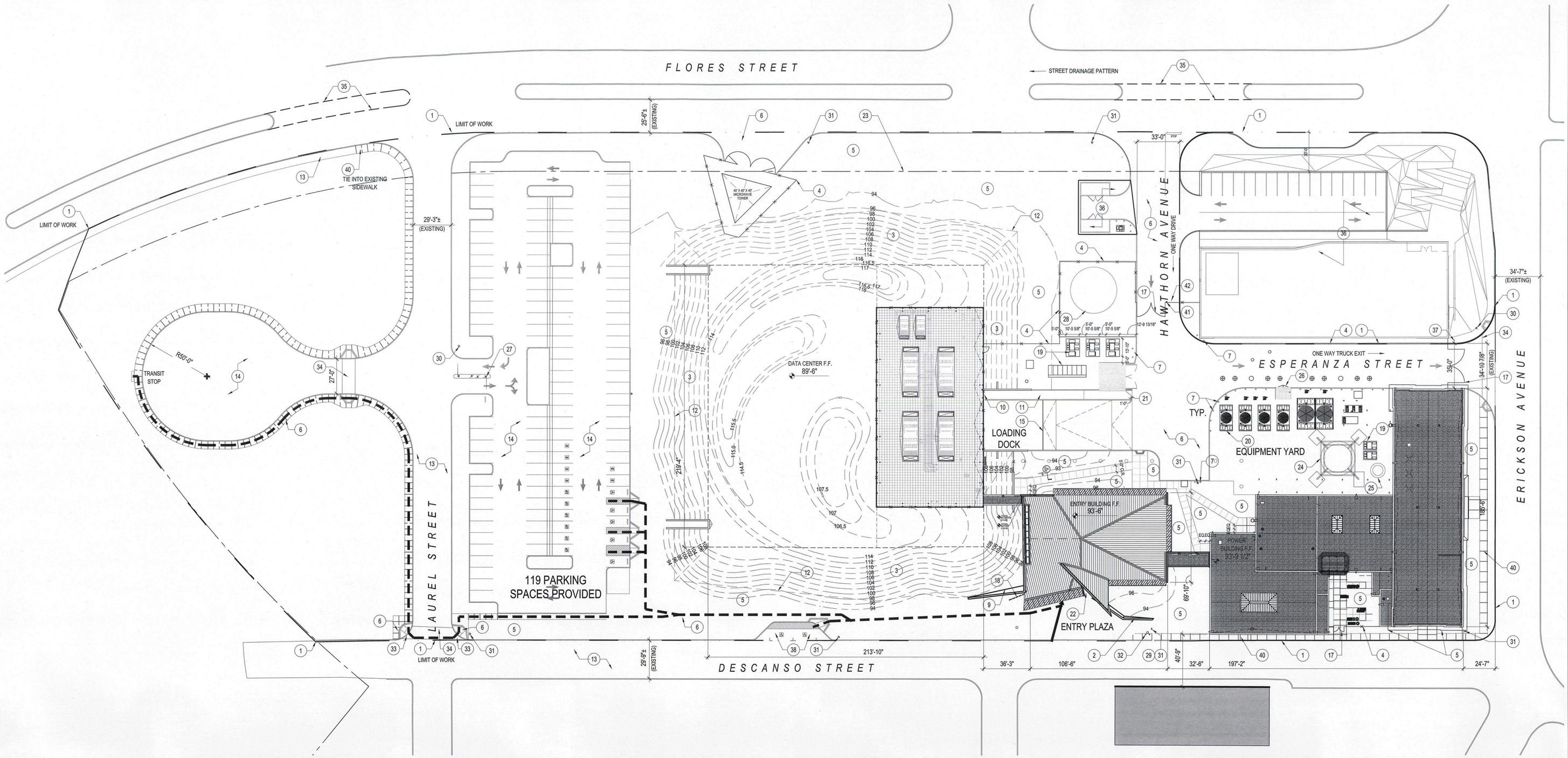
DATE: MAY 5, 2005
SCALE: ONE INCH = THIRTY FEET
CONTOUR INTERVAL: ONE FT.
PROJECT NO: 2371
SHEET ONE OF ONE SHEETS

HENNON Surveying & Mapping, Inc.
601 E. GLENOAKS BLVD., #208
GLENDALE, CALIFORNIA 91207
(818)243-0640 (818)790-0191
FAX: (818)243-0650

ARCHITECTURAL DESIGN SURVEY OF:

LA COUNTY DATA CENTER

IN THE CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA



SITE PLAN

SCALE: 1"=30'-0" SP_01

01

LAND DEVELOPMENT DEPARTMENT GENERAL NOTES:

ALL WORK OR IMPROVEMENT OUTSIDE OF THE PROJECT LIMIT AS DEPICTED IN THIS SITE IS NOT PART OF THIS PROJECT AND WILL BE IMPLEMENTED UNDER SEPARATE FUTURE PROJECTS BY THE COUNTY DEPARTMENT OF PUBLIC WORK AS PART OF RANCHO LOS AMIGOS MASTER CAMPUS PLAN.

ESTIMATED EARTHWORK QUANTITIES:

CUT: 15,000 CUBIC YARDS
FILL: 13,000 CUBIC YARDS
NET EXPORT: 2,000 CUBIC YARDS

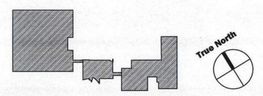
KEY NOTES

1. PROPERTY LINE - LIMIT OF WORK
2. CONCRETE RETAINING WALL
3. BERM
4. 6' HIGH METAL PICKET FENCE. SEE LANDSCAPING.
5. LANDSCAPE AREA PER LANDSCAPE DWGS
6. CONCRETE PAVING (ABV. STREET LEVEL)
7. BOLLARD. 24 TOTAL
8. STONE CLAD WALL
9. STONE PAVING
10. EXTERIOR STEPS
11. EXTERIOR RAMP
12. LINE OF MINIMUM STRUCTURAL BERM
13. EXISTING PAVING
14. ASPHALT PAVING
15. TRENCH DRAIN
16. AREA DRAIN
17. SWING GATES PER PLAN
18. BICYCLE SECURING RACKS FOR 7 BICYCLES
19. ELECTRICAL EQUIPMENT, SEE ELECTRICAL DRAWINGS.
20. MECHANICAL EQUIPMENT, SEE MECHANICAL DRAWINGS.
21. TRASH & RECYCLING STORAGE AND PICK UP AREA WITH TRASH COMPACTOR
22. 6' LONG PERMANENT ENTRY-WAY GRATES
    CITY UTILITY EASEMENT
23. EXISTING METAL WATER TOWER - SEE ELEVATIONS AND STRUCTURAL DRAWINGS
24. FOR SCOPE
    EXISTING CONCRETE CHIMNEY - SEE ELEVATIONS AND STRUCTURAL DRAWINGS
25. FOR SCOPE
26. FUEL-FILLING STATION FOR UNDERGROUND TANKS
27. PARKING LOT CONTROLLED VEHICULAR ENTRY/EXIT
28. WATER TANK
29. CLOSEST FIRE HYDRANT TO FIRE DEPT CONNECTION
30. EXISTING FIRE HYDRANT (TOTAL=2)
31. FIRE HYDRANT (TOTAL=7)
32. FIRE DEPT CONNECTION
33. CURB CUT WITH DETECTABLE WARNING. SEE CIVIL DRAWINGS AND 25/A00.40 FOR DETAILS
34. STRIPING FOR CROSSWALK. SEE CIVIL.
35. FUTURE MEDIAN CUTS AND STREET IMPROVEMENT PROJECTS SHOWN FOR REFERENCE ONLY (N.I.C.). TO BE DONE THROUGH FUTURE PROJECTS BY THE COUNTY.
36. CONSTRUCTION IN THIS AREA TO BE UNDER SEPARATE PERMIT. SEE CORRESPONDING DRAWINGS AND SPECIFICATIONS FOR SCOPE.
37. FREESTANDING 24"X36" METAL SIGNAGE STATING, "DO NOT ENTER" ON 6' HIGH METAL POLE WITH CONCRETE FOOTING.
38. ADDITIONAL REQUIRED ACCESSIBLE PARKING STALLS. PROVIDE REQUIRED STRIPING, CURB CUT AND SIGNAGE. SEE CIVIL DRAWINGS AND A00.40.
39. NOT USED.
40. CONC. SIDEWALK
41. GATE ACCESS PER SECURITY DRAWINGS
42. FREESTANDING 24"X36" METAL SIGNAGE STATING, "DELIVERIES ONLY" ON 6' HIGH METAL POLE WITH CONCRETE FOOTING.

SHEET NOTES

1. ALL ELEVATION HEIGHTS REFERENCE ELEVATION DATUM 0'-0" = 93'-6".
2. PER CIVIL DRAWINGS, ALL EXTERIOR GRADE ELEVATIONS SHALL BE -0.02' LOWER THAN THE INTERIOR FINISH ELEVATION.
3. ALL MATERIAL AND SCOPE CALLED OUT ARE NEW UNLESS NOTED OTHERWISE.
4. SEE CIVIL, STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON REQUIRED UNDERGROUND UTILITY TUNNELS AND TRENCHES
5. PROVIDE STANDARD CONC. FOOTINGS FOR POLE MOUNTED SECURITY CAMERAS AND EQUIPMENT. SEE SECURITY DRAWINGS FOR LOCATIONS OF EQUIPMENT. SEE CIVIL AND STRUCTURAL DRAWINGS FOR STANDARD FOOTING FOR POLE SIZE AND LOAD BASED ON SECURITY REQUIREMENTS. POLE TO BE PAINTED PER ARCHITECT'S SELECTION.

KEY PLAN



LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242
CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5850

Issue	Date & Issue Description	By	Check
-- 01	02/06/06	LA	VL
	DESIGN DEVELOPMENT		
-- 02	05/30/08	LA/NB	LA/NB
	50% CD DATA-ENTRY, 100% DD POWER BLDG		
-- 03	12/11/08	LA/NB	LA/NB
	90% CONSTRUCTION DOCUMENTS		
-- 04	04/06/09	LA/NB	LA/NB
	90% CONSTRUCTION DOCUMENTS		
-- 05	06/24/09	LA/NB	LA/NB
	90% CONSTRUCTION DOCUMENTS		
-- 06	09/16/09	LA/NB	LA/NB
	90% CONSTRUCTION DOCUMENTS		
-- 07	01/05/10	LA/NB	LA/NB
	PROGRESS SET FOR REVIEW		
-- 08	12/17/10	LA/NB	LA/NB
	PLAN CHECK SUBMITTAL		
-- 09	04/01/11	LA/NB	LA/NB
	PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT
EDWARD P. CONDE
No. C12855
Ren. 12-31-11
STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
A00-50

Description
SITE PLAN

Scale
1"=30'-0"
0 15' 30' 60'

Ref. North

A00.50

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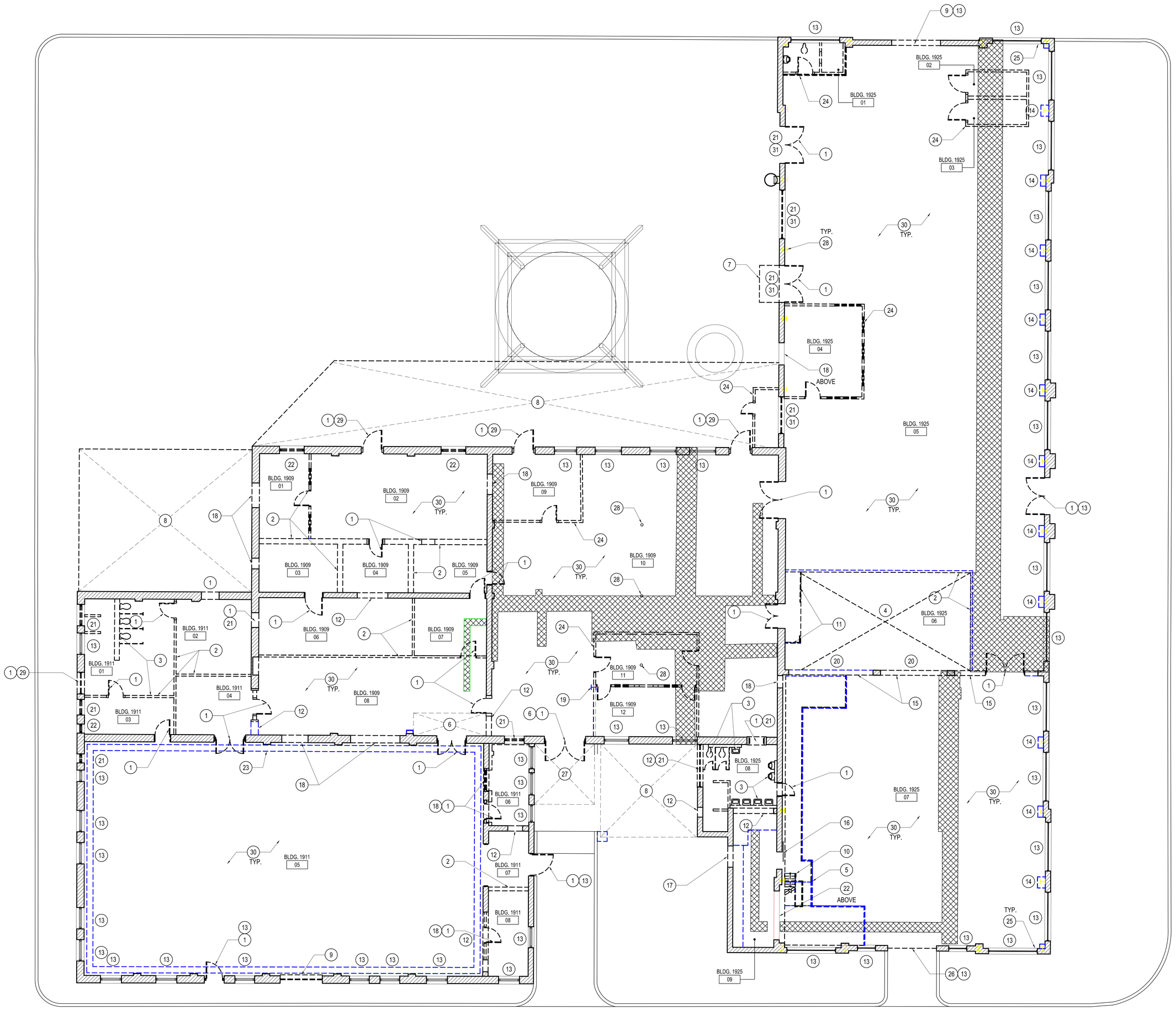


KEY NOTES

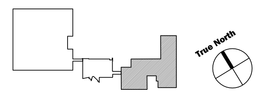
1. CAREFULLY REMOVE EXISTING DOOR, FRAME, HARDWARE AND MISC. ACCESSORIES TO BE USED IN MATCHING FOR REPLICATION. DISCARD UPON REPLICATION.
2. REMOVE EXISTING WALLS.
3. REMOVE EXISTING PLUMBING FIXTURES AND PLUMBING LINES.
4. REMOVE EXISTING PIT SLAB AND PIT WALLS. INFILL AFTER STRUCT. RETROFIT.
5. REMOVE EXISTING MEZZANINE AND RELATED STRUCTURE. EXISTING WALL COLUMNS TO REMAIN. PROTECT IN PLACE.
6. REMOVE EXISTING STEEL GANTRY STRUCTURE.
7. REMOVE EXISTING AWNING.
8. REMOVE EXISTING METAL SHED ROOF, WALLS & ASSOCIATED STRUCTURE.
9. REMOVE EXISTING OVERHEAD DOOR, TRANSOM, ASSOCIATED TRIM, METAL CORNER PROTECTION AND MISC. ACCESSORIES. PROTECT EXISTING TRANSOM WINDOW AND CHANNEL SUPPORT ABOVE.
10. REMOVE EXISTING STAIR AND RAILING.
11. REMOVE EXISTING GUARDRAIL.
12. REMOVE PORTION OF EXISTING WALL TO ACCOMMODATE FOR NEW CONSTRUCTION. SEE ARCH. FLOOR PLAN.
13. EXISTING WINDOW / TRANSOM TO REMAIN. PROTECT IN PLACE. SEE ELEVATIONS AND WINDOW SCHEDULE FOR REPAIR/REPLACEMENT SCOPE.
14. REMOVE BRICK PILASTER EXPOSING STEEL COLUMN.
15. REMOVE CLAY TILE INFILL BETWEEN CONCRETE COLUMNS AND BEAMS.
16. EXISTING DOOR, FRAME AND HARDWARE TO REMAIN. PROTECT IN PLACE.
17. REMOVE EXISTING LOUVER / HOOD.
18. REMOVE INFILL FRAMING IN OPENING.
19. EXISTING COOLING TOWER COLUMN TO REMAIN. PROTECT IN PLACE.
20. REMOVE EXISTING BEAM AT FLOOR LINE.
21. REMOVE ENTIRE EXISTING WINDOW ASSEMBLY.
22. REMOVE EXISTING WINDOW FOR USE AT OTHER LOCATION. PROTECT WINDOW, SILL, JAMB, HEAD AND STEEL CHANNELS.
23. REMOVE EXISTING FLOOR TRENCH THROUGHOUT.
24. REMOVE EXISTING STRUCTURE. INCLUDES WALLS, CEILINGS, DOORS, WINDOWS, FURNITURE, PLUMBING ACCESSORIES AND ELECTRICAL FIXTURES, ETC.
25. REMOVE EXISTING ROOF DRAIN LEADERS. FIELD VERIFY ALL LOCATIONS. PROTECT OPENING THRU EXTERIOR WALLS.
26. REMOVE EXISTING GATE AND ASSOCIATED ACCESSORIES. PROTECT EXISTING TRANSOM WINDOW AND CHANNEL SUPPORT ABOVE.
27. EXISTING STEEL GANTRY STRUCTURE TO REMAIN. PROTECT IN PLACE.
28. EXISTING STEEL COLUMNS TO REMAIN. PROTECT IN PLACE.
29. REMOVE (E) TRANSOM WINDOW ABOVE DOOR.
30. REMOVE ALL (E) MACHINERIES, EQUIPMENT AND DEBRIS.
31. REMOVE (E) STL. CHANNELS AND FRAMES BOTH DIRECTIONS VERITICAL AND HORIZONTAL. (E)CHANNEL @ SILL TO REMAIN.

LEGEND

- EXISTING CONSTRUCTION TO REMAIN.
- EXISTING UTILITY TUNNELS TO BE FILLED WITH COMPACTED SOIL PER STRUCTURAL DWGS.
- EXISTING CONSTRUCTION TO BE DEMOLISHED.

SHEET NOTES

1. REFER TO CIVIL DRAWING FOR SITE DEMOLITION INFORMATION.
2. REMOVE ALL EXISTING PLASTER FINISHES AND INSULATION FROM WALLS AND CEILINGS. PROTECT EXISTING BRICK AND ROOF FRAMING DURING AND AFTER THE REMOVAL PROCESS.
3. REMOVE ALL EXISTING INTERIOR CONCRETE FLOOR SLAB. UTILITY TUNNELS BELOW SLABS TO BE FILLED. WHERE TUNNELS EXTEND BEYOND BUILDING PERIMETER, REFER TO STRUCTURAL AND CIVIL DRAWINGS FOR FOUNDATION INFILL. REMOVE EXISTING MECHANICAL, PLUMBING AND UTILITY LINES.
4. REMOVE ALL EXISTING SUSPENDED CEILING, LIGHTING / PLUMBING / ELECTRICAL / MECHANICAL FIXTURES, MECH. SUPPORT, EQUIPMENT, NON-STRUCTURAL HORIZONTAL MEMBERS HANGING FROM (E) TRUSSES, FURNISHINGS, WINDOW SECURITY BARS AND DEBRIS FROM FLOOR, WALL, AND CEILING. REMOVE WITH CARE TO PROTECT STRUCTURE AND ITEMS TO REMAIN.
5. REMOVE PAINT FROM EXTERIOR AND INTERIOR BRICK FACADES AND INTERIOR WOOD FRAMING. REMOVE WATER DAMAGE FROM UNPAINTED EXPOSED WOOD ROOF FRAMING.
6. REMOVE ALL GLASS FROM EXISTING WINDOWS AND SKYLIGHTS. PROTECT FRAMES, SASH, MUNTINS, MULLIONS, SILLS, HARDWARE AND OTHER COMPONENTS FOR REUSE.
7. EXISTING WATER TOWER AND CHIMNEY TO REMAIN. PROTECT IN PLACE.
8. REFER TO STRUCTURAL DRAWINGS FOR NEW BEAMS AND REINFORCEMENT PRIOR TO DEMOLISHING WALLS. ALL WALLS BEING REMOVED THAT ARE BEING SUPPORTED BY NEW BEAMS SHALL BE SHORED OR STRUCTURALLY SUPPORTED PRIOR TO REMOVING WALLS.
9. CONTRACTOR TO FAMILIARIZE HIMSELF WITH THE SCOPE OF DEMOLITION WORK THROUGH FIELD VERFICATION WITH ARCHITECT AND OWNER PRIOR TO BIDDING AND DEMOLITION/REMOVAL WORK.
10. PATCH & REPAIR ALL AREAS AFFECTED BY DEMOLITION WORK. COORDINATE DEMOLITION WORK WITH CONSTRUCTION SCOPE.



KEY PLAN

LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5550

	Issue	Date & Issue Description	By	Check
--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
--	04	04/06/09	LA/NB	LA/NB
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--	05	06/24/09	LA/NB	LA/NB
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		PROGRESS SET FOR REVIEW		
--	08	12/17/10	LA/NB	LA/NB
		PLAN CHECK SUBMITTAL		
--	09	04/01/11	LA/NB	LA/NB
		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT ANDREW P. CRIBBS No. C 12855 Rens. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A01-01P.dwg

Description
1ST FLOOR DEMOLITION PLAN - POWER BUILDING

Scale
1/8" = 1'-0"

A01.01P

Ref. North

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1ST FLOOR DEMOLITION PLAN - POWER BUILDING

SCALE: 1/8"=1'-0" A01-01P.dwg

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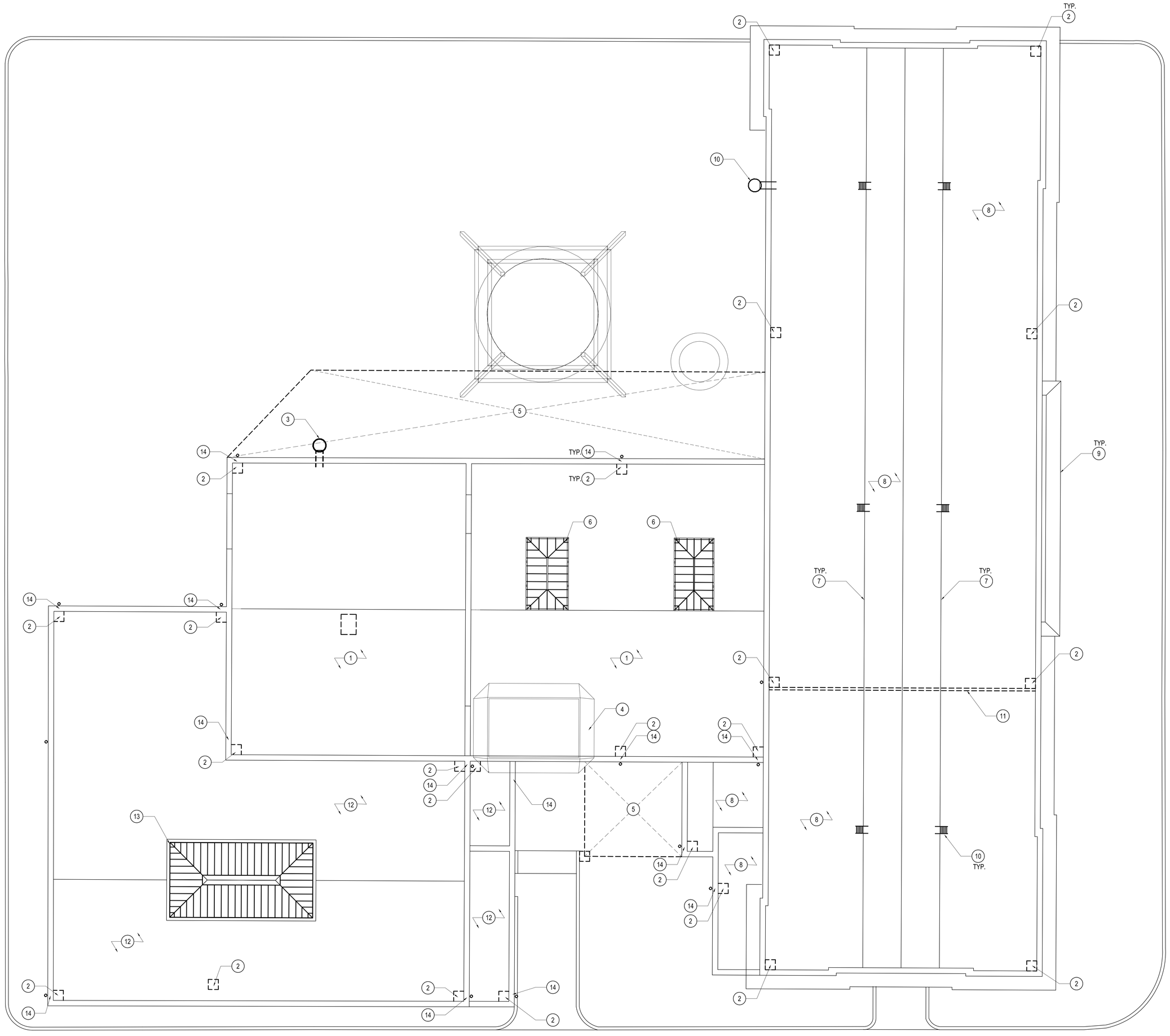
ESPERANZA STREET



ERICKSON AVENUE

DESCANSO STREET

KEY NOTES

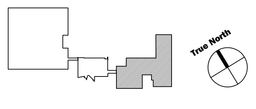
1. REMOVE EXISTING ROOFING ASSEMBLY AND ALL RELATED FLASHING & ACCESSORIES AT ALL AREAS (ROOF, PARAPET, CAP). EXISTING WOOD SHEATHING TO REMAIN. PROTECT IN PLACE.
2. REMOVE EXISTING DRAINS, SCUPPERS, LEADERS, GUTTERS, DOWNSPOUTS AND RELATED FLASHING COMPLETE. COORDINATE WITH ROOF CONSTRUCTION PLAN FOR REQUIRED SCOPE.
3. REMOVE EXISTING ROOF ACCESS LADDER. PATCH & REPAIR ALL HOLES AND AREAS AFFECTED BY DEMOLITION (SEE TYP. SHEETS BELOW)
4. EXISTING WOODEN COOLING TOWER TO REMAIN AND PROTECTED IN PLACE. SEE ROOF PLAN (A02.03P) AND A08.01 FOR ADDITIONAL DEMOLITION SCOPE ASSOCIATED WITH RETROFIT WORK.
5. REMOVE EXISTING CORRUGATED METAL OVERHANG, ASSOCIATED VERTICAL STRUCTURE AND MISC. ACCESSORIES.
6. CAREFULLY REMOVE AND RETAIN ENTIRE SKYLIGHT ASSEMBLY, ITS COMPONENTS AND CURB TO SERVE AS A REFERENCE AND TO ALLOW REPLICATION OR REUSE BY SKYLIGHT CONTRACTOR. COORDINATE WITH SKYLIGHT CONTRACTOR. SEE A08.02.
7. REMOVE IDENTIFIED EXISTING MONITOR WINDOWS AND FRAMES. REFER TO ARCHITECTURAL ELEVATIONS FOR LOCATIONS.
8. REMOVE EXISTING ROOFING ASSEMBLY AND ALL RELATED FLASHING & ACCESSORIES AT ALL AREAS (ROOF, PARAPET, CAP). EXISTING CONC. DECK TO REMAIN.
9. ALONG T.O. CORNICE, REMOVE MASTIC BETWEEN EDGE OF CONCRETE AND SHEET METAL CAP. PROTECT IN PLACE. SEE ELEVATIONS ON A09.05, A09.06 AND A09.07 FOR REFERENCE AND REQUIRED COORDINATION WITH REFURBISH/REPAIR WORK PER 3/A09.07.
10. REMOVE, REFURBISH AND REPAINT EXISTING STEEL ROOF ACCESS LADDER. PROTECT FOR REUSE. VERIFY ALL LOCATIONS.
11. REMOVE EXISTING HOLLOW CLAY TILE STUCCO WALL FLUSH WITH CONCRETE ROOF DECK.
12. REMOVE EXISTING ROOFING ASSEMBLY AND ALL RELATED FLASHING & ACCESSORIES AT ALL AREA (ROOF, PARAPET AND CAP). REMOVE EXISTING WOOD SHEATHING.
13. CAREFULLY REMOVE AND RETAIN ENTIRE SKYLIGHT ASSEMBLY (ABOVE VERTICAL WINDOW WALLS) TO SERVE AS A REFERENCE AND TO ALLOW REPLICATION OR REUSE BY SKYLIGHT CONTRACTOR. COORDINATE WITH SKYLIGHT CONTRACTOR. REMOVE METAL GUTTER, FLASHING, CLADDING, SHEATHING AND GLASS IN WALLS. PROTECT WALL FRAMING IN PLACE. SEE A08.02.
14. REMOVE PORTION OF (E) BRICK MASONRY WALL TO ACCOMMODATE ROOF DRAIN PIPE PENETRATION AND/OR SCUPPER INSTALLATION. COORDINATE WITH ROOF CONSTRUCTION PLAN FOR SIZE, LOCATION AND REQUIRED SCOPE.

LEGEND

EXISTING CONSTRUCTION TO BE DEMOLISHED.

SHEET NOTES

1. REFER TO CIVIL DRAWINGS FOR SITE DEMOLITION INFORMATION.
2. REMOVE ALL EXISTING PLUMBING LINES, MECHANICAL LINES AND EQUIPMENT, ELECTRICAL CONDUIT AND EQUIPMENT, ROOF DRAINS, SCUPPERS, LEADERS AND DEBRIS. REMOVE PORTIONS OF ROOF AND WALLS TO ACCOMMODATE NEW ROOF DRAINS, SCUPPERS, PIPES, LEADERS, AND DOWNSPOUTS AS REQUIRED.
3. REMOVE ALL GLASS FROM EXISTING WINDOWS AND SKYLIGHTS. PROTECT FRAMES, SASH, MUNTINS, MULLIONS, SILLS, HARDWARE AND OTHER COMPONENTS FOR REUSE. SEE CORRESPONDING SHEETS FOR MORE INFORMATION ON SCOPE.
4. EXISTING WATER TOWER AND CHIMNEY TO REMAIN. PROTECT IN PLACE.
5. ALL EXISTING ROOF DRAINS AND ASSOCIATED COMPONENTS SHALL BE REMOVED. FIELD VERIFY LOCATION AND QUANTITY OF ALL EXISTING ROOF DRAINS AND ACCESSORIES FOR DEMOLITION ITEMS CALLED OUT AS TYPICAL.
6. PATCH & REPAIR ALL AREAS AFFECTED BY DEMOLITION WORK.
7. COORDINATE REQUIRED DEMOLITION WORK WITH CONSTRUCTION SCOPE.



KEY PLAN

LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
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Suite 300
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Telephone 310.449.5600
Facsimile 310.449.5850

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--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
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		COOLING TOWER PLAN CHECK		
--	08	01/05/10	LA/NB	LA/NB
		PROGRESS SET FOR REVIEW		
--	09	12/17/10	LA/NB	LA/NB
		PLAN CHECK SUBMITTAL		
--	10	04/01/11	LA/NB	LA/NB
		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT — EDWIN P. COMIS — No. C 12855 — Rem. 12-31-11 — STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A01-03P.dwg

Description
ROOF DEMOLITION PLAN - POWER BUILDING

Scale
1/8" = 1'-0"

A01.03P

Ref. North

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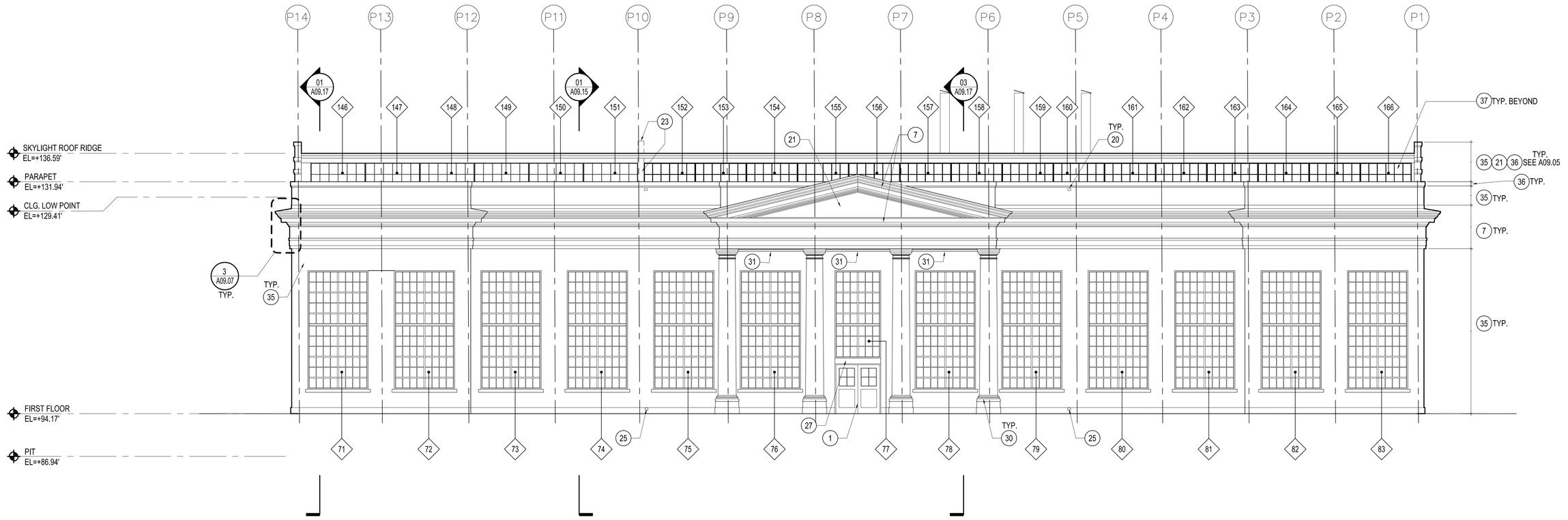
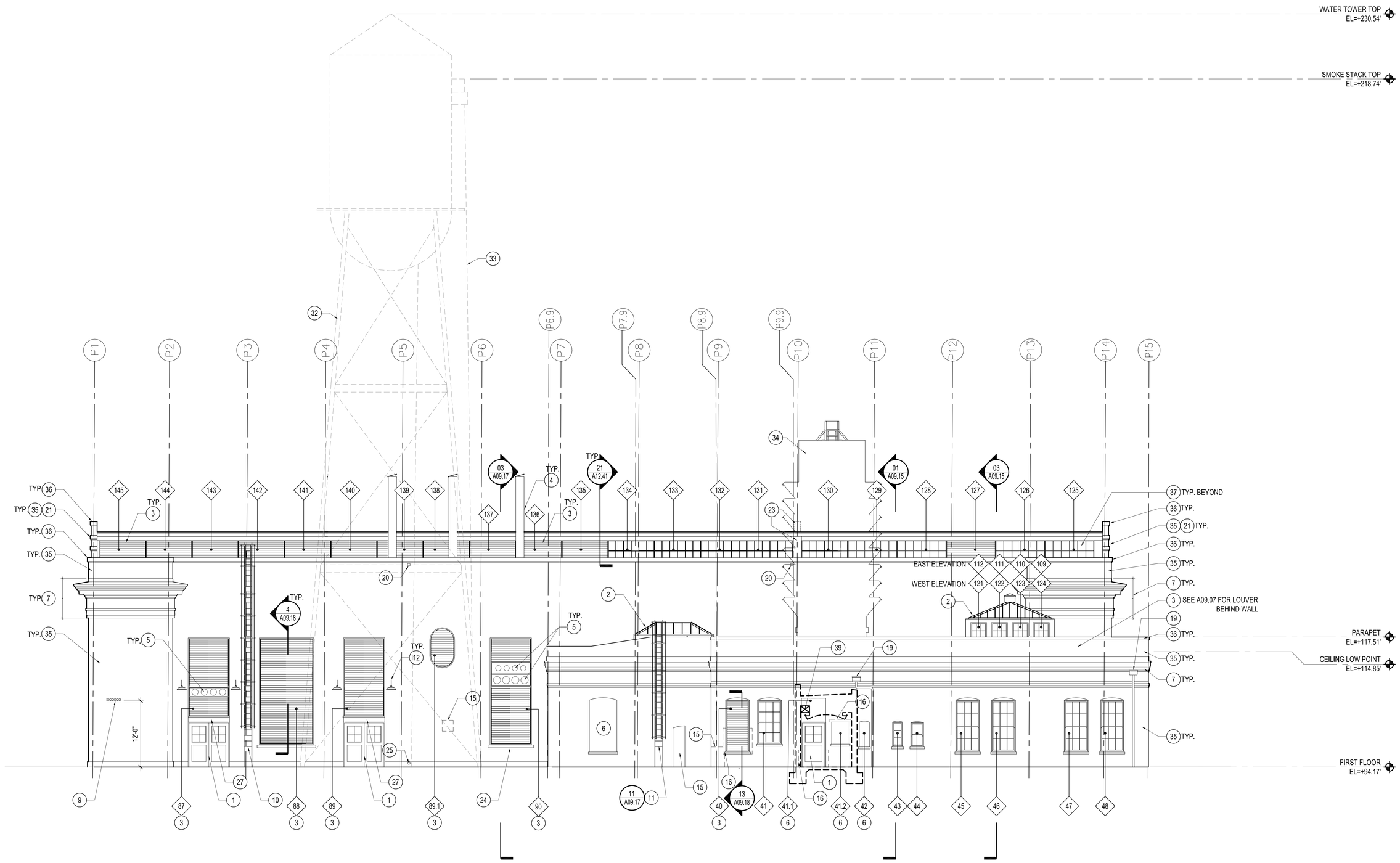
ROOF DEMOLITION PLAN - POWER BUILDING
SCALE: 1/8" = 1'-0" A01-03P.dwg

01



EAST ELEVATION
SCALE: 1/8"=1'=0" EE_0906-96.dwg

02



WEST ELEVATION
SCALE: 1/8"=1'=0" EE_0906-96.dwg

01

KEY NOTES

1. PAINTED CUSTOM DOOR, FRAME, AND HARDWARE. SEE DOOR SCHEDULE.
2. REBUILD/REFURBISH EXISTING SKYLIGHT, CURBS, WALLS AND REGLAZE. SEE A08.02 AND STRUCTURAL DRAWINGS FOR SCOPE.
3. PAINTED CUSTOM MECHANICAL LOUVERS BEHIND EXISTING/NEW WINDOW FRAME PER WINDOW SCHEDULE. SEE MECH. DRAWINGS FOR PIPE PENETRATIONS. PROVIDE WATER PROOFING AT ALL PENETRATIONS. SEE A09.18
4. PAINTED MECHANICAL FLUE SHOWN FOR REFERENCE. SEE MECHANICAL DRAWINGS.
5. MECHANICAL PIPING. SEE MECHANICAL DRAWINGS. PROVIDE WATERPROOFING.
6. INFILL EXISTING WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE EXISTING COURSING AND RECESS INFILL 1" FROM EXISTING EXTERIOR FACE.
7. REFURBISH AND PAINT (E) METAL CORNICE. RESEAL JOINT BETWEEN METAL CAP AND CONCRETE DECK AT CORNICE PER 3/A09.07. FIELD VERIFY CONDITION OF (E) CORNICE.
8. MECHANICAL LOUVERS. SEE MECH. DRAWINGS.
9. DAY TANK VENT OPENINGS. REMOVE FULL BRICKS FOR OPENINGS. PROVIDE FLASHING AND WATERPROOFING. SEE PENETRATION DETAILS AND REQUIREMENTS ON 19/A12.00.
10. REFURBISH AND PAINT (E) ROOF ACCESS LADDER.
11. PAINTED FIXED CAGED ROOF ACCESS LADDER TO MATCH EXISTING.
12. GOOSENECK EXTERIOR LIGHT FIXTURE TO MATCH EXISTING OR ORIGINAL. SEE ALSO ELECTRICAL.
13. ROOF DRAIN OUTLET.
14. PATCH AND REPAIR OPENING AND CONCRETE CURB AT (E) ROOF DRAIN LOCATION.
15. INFILL EXISTING OPENING FLUSH WITH EXTERIOR FACADE. MATERIAL AND COURSING TO MATCH EXISTING.
16. REMOVE (E) ANGLES AND REMAINING DOOR / WINDOW / GATE ACCESSORIES.
17. CUSTOM TRANSOM WINDOW TO MATCH (E) STEEL WINDOWS.
18. REMOVE (E) INFILL MATERIAL AT JOINT AND REPOINT.
19. PAINTED CUSTOM CONDUCTOR HEAD AND DOWNSPOUT TO MATCH EXISTING DESIGN. TERMINATE DOWNSPOUT AT GRADE ABOVE NEW SPLASH BLOCK.
20. ROOF SCUPPER. PROFILE AND MATERIAL TO MATCH EXISTING.
21. REPAIR AND PAINT (E) STUCCO PLASTER.
22. REFURBISH AND PAINT (E) METAL GRILLES.
23. REMOVE (E) HOLLOW TILE STUCCO WALL.
24. CONCRETE SILL TO MATCH EXISTING.
25. ROOF DRAIN AT (E) BUILDING OUTLET.
26. REFURBISH AND PAINT (E) METAL CLAD WOOD DOORS.
27. REPAIR AND PAINT (E) STUCCO PLASTER HEADER.
28. PAINTED CONC. HEADER. VERIFY HEADER IN FIELD.
29. REFURBISH AND PAINT (E) GANTRY STRUCTURE.
30. PATCH AND PAINT (E) STUCCO PLASTER COLUMN AND BASE.
31. REFURBISH (E) LIGHT FIXTURE.
32. (E) WATER TOWER AND TANK TO BE PAINTED WITH HIGH PERFORMANCE PAINT. SEE SPECIFICATION FOR PROCEDURES ON PAINT REMOVAL AND PREPARATION WORK. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
33. (E) CHIMNEY. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
34. STRUCTURAL RETROFIT AND RELATED ARCHITECTURAL WORK. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS
35. REMOVE (E) PAINT AND COATINGS; REPOINT, CLEAN AND RESTORE TO ORIGNIAL BRICK FINISH; AND APPLY SPECIFIED SEALER.
36. REPAIR (E) CONC. OR MASONRY COPING AND APPLY PAINT. SEE ALSO PARAPET & ROOFING DETAILS FOR ADDITIONAL SCOPE.
37. REPAIR/REPLACE (E) CLERESTORY WINDOWS. SEE WINDOW SCHEDULE AND CORRESPONDING DETAILS.
38. REPAIR (E) DAMAGED BRICK MASONRY. REPLACE BRICKS AS NEEDED TO MATCH ADJACENT SURFACES.
39. OPENING FOR MECHANICAL DUCTS AND/OR PIPES (TYP). SEE MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTRUAL DRAWINGS FOR REQUIRED COORDINATION.

SHEET NOTES

1. REFER TO THE SPECIFICATION FOR DESCRIPTION AND PROCEDURES OF REQUIRED HISTORIC TREATMENT FOR "REFURBISH" AND "REPAIR" SCOPE.
2. REMOVE EXISTING PAINT AND COATINGS FROM THE EXTERIOR MASONRY AND EXTERIOR SURFACES. RESTORE AND CLEAN TO ORIGINAL UNFINISHED CONDITION AND APPLY SELAER PER SPECIFICATION.
3. REMOVE ALL ELECTRICAL CONDUIT, ELECTRICAL DEVICES, LIGHT FIXTURES, VENT COVERS, MISC. METAL AND MISC. PLUMBING LINES ON BUILDING FACADE.
4. PATCH, REPAIR, CLEAN AND SEAL CONCRETE BASE, SILL AND PARAPET CAP AS REQUIRED.
5. RESEAL TRANSITION BETWEEN METAL CORNICE AND BRICK AS REQUIRED. SEE SPECIFICATION.
6. REPOINT ENTIRE EXISTING MASONRY FACADE. APPLY PROTECTIVE MASONRY SEALER AT ALL BRICK MASONRY SURFACES.
7. PATCH AND REPAIR HOLES IN EXISTING FACADE TO MATCH SURROUNDING FIELD. REPLACE DAMAGED OR MISSING BRICK AT FACADE, WINDOW SILL AND PARAPET AS REQUIRED. NEW MATERIAL TO MATCH EXISTING. PROVIDE ALLOWANCE OF 600 UNITS OF BRICK REPLACEMENT OVERALL BEYOND SCOPE SPECIFICALLY IDENTIFIED ON PLAN. PROVIDE UNIT PRICE AT THE TIME OF BIDDING.
8. REGLAZE EXISTING WINDOWS. REFER TO ARCHITECTURAL WINDOW SCHEDULE FOR GLASS TYPE AND SCOPE.
9. REPAIR, REFURBISH AND PAINT EXISTING STEEL AND WOOD WINDOW FRAMES. SEE ARCHITECTURAL WINDOW SCHEDULE.
10. SEE DOOR SCHEDULE FOR NEW AND REFURBISH SCOPE.
11. ALL MATERIAL AND SCOPE CALLED OUT OR SHOWN ON THIS PLAN IS NEW U.N.O.

KEY PLAN

LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5850

△	Issue	Date & Issue Description	By	Check
--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
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		90% CONSTRUCTION DOCUMENTS		
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		COOLING TOWER PLAN CHECK		
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		PROGRESS SET FOR REVIEW		
--	09	12/17/10	LA/NB	LA/NB
		PLAN CHECK SUBMITTAL		
--	10	04/01/11	LA/NB	LA/NB
		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT
ANDREW F. COUEY
No. C 12855
Ren. 12-31-11
STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\SHEETS\A09-06.dwg

Description
EXTERIOR ELEVATIONS POWER BUILDING

Scale
1/8"=1'-0"

A09.06

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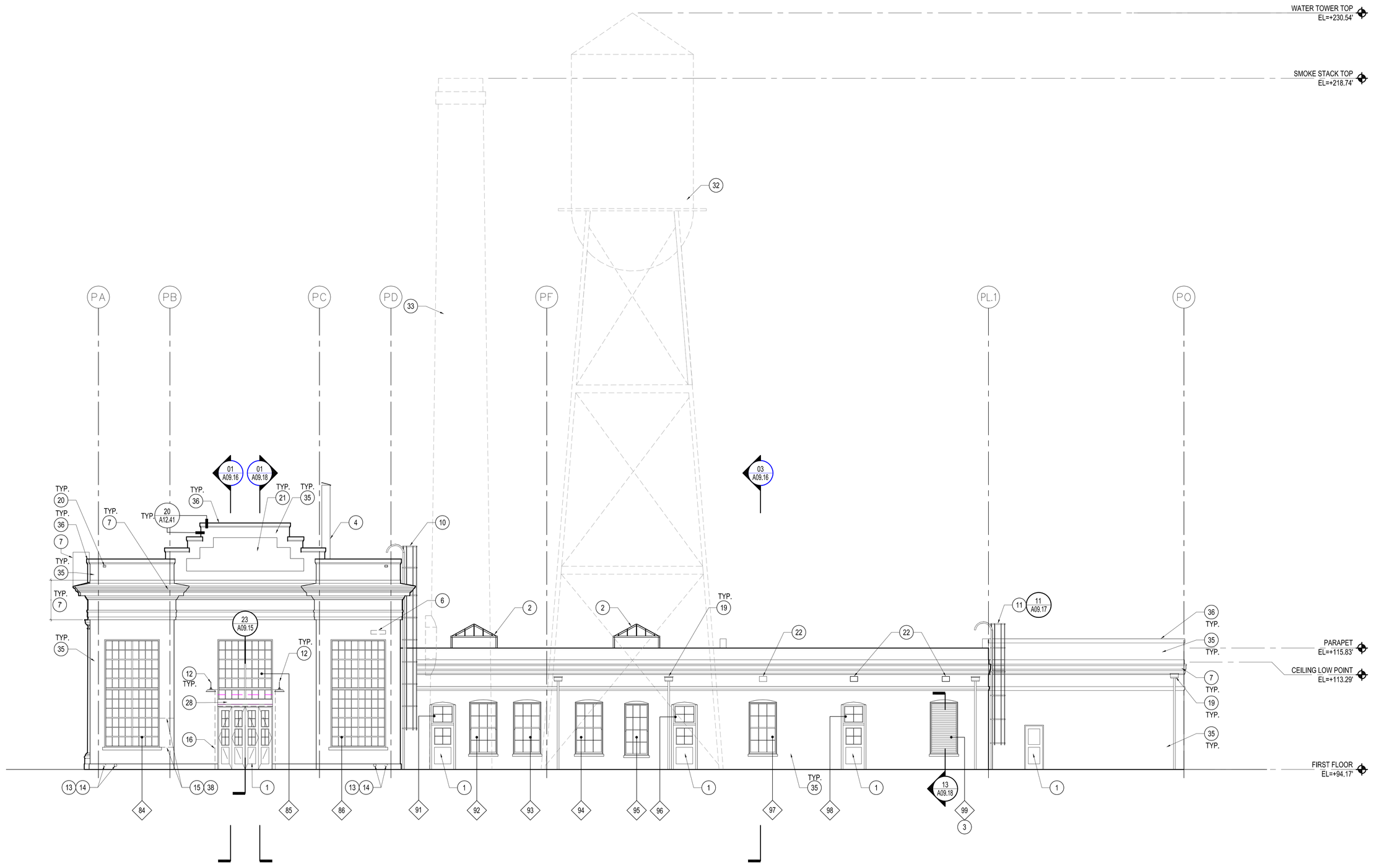
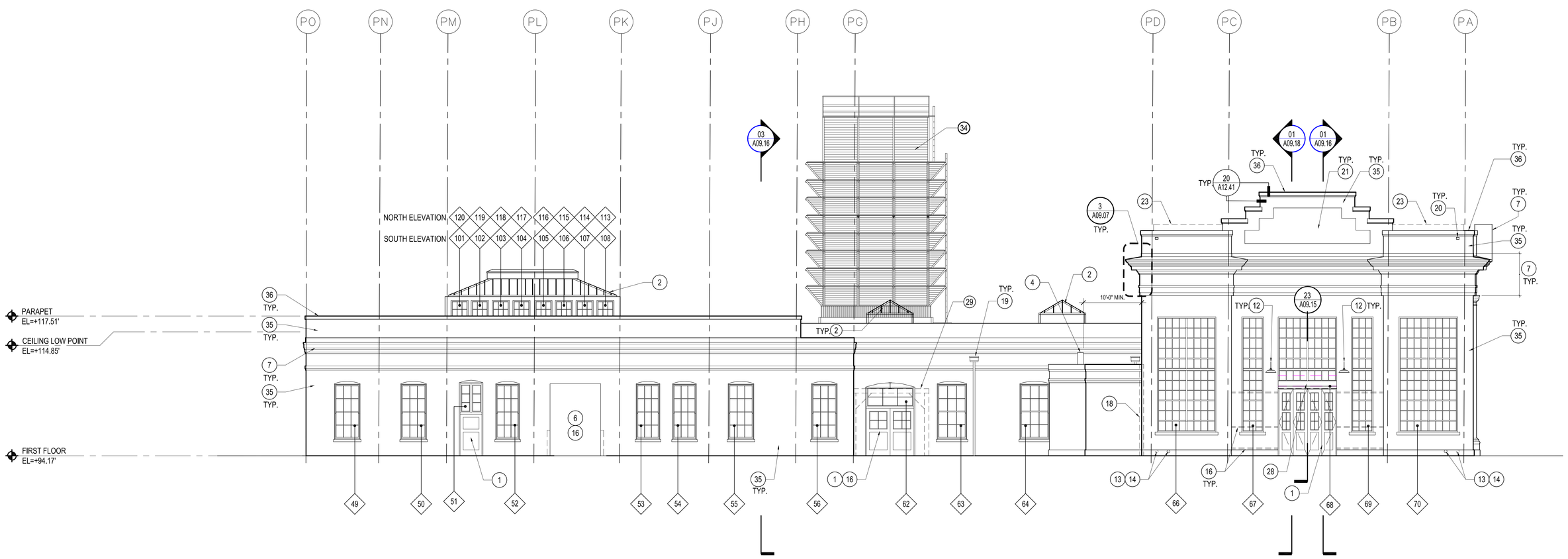


NORTH ELEVATION

SCALE: 1/8"=1'=0" EE_0905-96.dwg

02



SOUTH ELEVATION

SCALE: 1/8"=1'=0" EE_0905-96.dwg

01

KEY PLAN

KEY NOTES

1. PAINTED CUSTOM DOOR, FRAME, AND HARDWARE. SEE DOOR SCHEDULE.
2. REBUILD/REFURBISH EXISTING SKYLIGHT, CURBS, WALLS AND REGLAZE. SEE A08.02 AND STRUCTURAL DRAWINGS FOR SCOPE.
3. PAINTED CUSTOM MECHANICAL LOUVERS BEHIND EXISTING/NEW WINDOW FRAME PER WINDOW SCHEDULE. SEE MECH. DRAWINGS FOR PIPE PENETRATIONS. PROVIDE WATER PROOFING AT ALL PENETRATIONS. SEE A09.18
4. PAINTED MECHANICAL FLUE SHOWN FOR REFERENCE. SEE MECHANICAL DRAWINGS.
5. MECHANICAL PIPING. SEE MECHANICAL DRAWINGS. PROVIDE WATERPROOFING.
6. INFILL EXISTING WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE EXISTING COURSING AND RECESS INFILL 1" FROM EXISTING EXTERIOR FACE.
7. REFURBISH AND PAINT (E) METAL CORNICE. RESEAL JOINT BETWEEN METAL CAP AND CONCRETE DECK AT CORNICE PER 3/A09.07. FIELD VERIFY CONDITION OF (E) CORNICE.
8. MECHANICAL LOUVERS. SEE MECH. DRAWINGS.
9. DAY TANK VENT OPENINGS. REMOVE FULL BRICKS FOR OPENINGS. PROVIDE FLASHING AND WATERPROOFING. SEE PENETRATION DETAILS AND REQUIREMENTS ON 19/A12.00.
10. REFURBISH AND PAINT (E) ROOF ACCESS LADDER.
11. PAINTED FIXED CAGED ROOF ACCESS LADDER TO MATCH EXISTING.
12. GOOSENECK EXTERIOR LIGHT FIXTURE TO MATCH EXISTING OR ORIGINAL. SEE ALSO ELECTRICAL.
13. ROOF DRAIN OUTLET.
14. PATCH AND REPAIR OPENING AND CONCRETE CURB AT (E) ROOF DRAIN LOCATION.
15. INFILL EXISTING OPENING FLUSH WITH EXTERIOR FACADE. MATERIAL AND COURSING TO MATCH EXISTING.
16. REMOVE (E) ANGLES AND REMAINING DOOR / WINDOW / GATE ACCESSORIES.
17. CUSTOM TRANSOM WINDOW TO MATCH (E) STEEL WINDOWS.
18. REMOVE (E) INFILL MATERIAL AT JOINT AND REPOINT.
19. PAINTED CUSTOM CONDUCTOR HEAD AND DOWNSPOUT TO MATCH EXISTING DESIGN. TERMINATE DOWNSPOUT AT GRADE ABOVE NEW SPLASH BLOCK.
20. ROOF SCUPPER. PROFILE AND MATERIAL TO MATCH EXISTING.
21. REPAIR AND PAINT (E) STUCCO PLASTER.
22. REFURBISH AND PAINT (E) METAL GRILLES.
23. REMOVE (E) HOLLOW TILE STUCCO WALL.
24. CONCRETE SILL TO MATCH EXISTING.
25. ROOF DRAIN AT (E) BUILDING OUTLET.
26. REFURBISH AND PAINT (E) METAL CLAD WOOD DOORS.
27. REPAIR AND PAINT (E) STUCCO PLASTER HEADER.
28. PAINTED CONC. HEADER. VERIFY HEADER IN FIELD.
29. REFURBISH AND PAINT (E) GANTRY STRUCTURE.
30. PATCH AND PAINT (E) STUCCO PLASTER COLUMN AND BASE.
31. REFURBISH (E) LIGHT FIXTURE.
32. (E) WATER TOWER AND TANK TO BE PAINTED WITH HIGH PERFORMANCE PAINT. SEE SPECIFICATION FOR PROCEDURES ON PAINT REMOVAL AND PREPARATION WORK. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
33. (E) CHIMNEY. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
34. STRUCTURAL RETROFIT AND RELATED ARCHITECTURAL WORK. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS
35. REMOVE (E) PAINT AND COATINGS; REPOINT, CLEAN AND RESTORE TO ORIGINAL BRICK FINISH; AND APPLY SPECIFIED SEALER.
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37. REPAIR/REPLACE (E) CLERESTORY WINDOWS. SEE WINDOW SCHEDULE AND CORRESPONDING DETAILS.
38. REPAIR (E) DAMAGED BRICK MASONRY. REPLACE BRICKS AS NEEDED TO MATCH ADJACENT SURFACES.
39. OPENING FOR MECHANICAL DUCTS AND/OR PIPES (TYP). SEE MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTRIAL DRAWINGS FOR REQUIRED COORDINATION.

SHEET NOTES

1. REFER TO THE SPECIFICATION FOR DESCRIPTION AND PROCEDURES OF REQUIRED HISTORIC TREATMENT FOR "REFURBISH" AND "REPAIR" SCOPE.
2. REMOVE EXISTING PAINT AND COATINGS FROM THE EXTERIOR MASONRY AND EXTERIOR SURFACES. RESTORE AND CLEAN TO ORIGINAL UNFINISHED CONDITION AND APPLY SELAER PER SPECIFICATION.
3. REMOVE ALL ELECTRICAL CONDUIT, ELECTRICAL DEVICES, LIGHT FIXTURES, VENT COVERS, MISC. METAL AND MISC. PLUMBING LINES ON BUILDING FACADE.
4. PATCH, REPAIR, CLEAN AND SEAL CONCRETE BASE, SILL AND PARAPET CAP AS REQUIRED.
5. RESEAL TRANSITION BETWEEN METAL CORNICE AND BRICK AS REQUIRED. SEE SPECIFICATION.
6. REPOINT ENTIRE EXISTING MASONRY FACADE. APPLY PROTECTIVE MASONRY SEALER AT ALL BRICK MASONRY SURFACES.
7. PATCH AND REPAIR HOLES IN EXISTING FACADE TO MATCH SURROUNDING FIELD. REPLACE DAMAGED OR MISSING BRICK AT FACADE, WINDOW SILL AND PARAPET AS REQUIRED. NEW MATERIAL TO MATCH EXISTING. PROVIDE ALLOWANCE OF 600 UNITS OF BRICK REPLACEMENT OVERALL BEYOND SCOPE SPECIFICALLY IDENTIFIED ON PLAN. PROVIDE UNIT PRICE AT THE TIME OF BIDDING.
8. REGLAZE EXISTING WINDOWS. REFER TO ARCHITECTURAL WINDOW SCHEDULE FOR GLASS TYPE AND SCOPE.
9. REPAIR, REFURBISH AND PAINT EXISTING STEEL AND WOOD WINDOW FRAMES. SEE ARCHITECTURAL WINDOW SCHEDULE.
10. SEE DOOR SCHEDULE FOR NEW AND REFURBISH SCOPE.
11. ALL MATERIAL AND SCOPE CALLED OUT OR SHOWN ON THIS PLAN IS NEW U.N.O.

LOS ANGELES COUNTY DATA CENTER

7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler

2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5850

△	Issue	Date & Issue Description	By	Check
--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
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		COOLING TOWER PLAN CHECK		
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		PLAN CHECK SUBMITTAL		
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		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT
ANDREW P. CONN
No. C 12855
Ren. 12-31-11
STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\SHEETS\A09-05.dwg

Description
EXTERIOR ELEVATIONS POWER BUILDING

Scale
1/8"=1'-0"

A09.05

Ref. North

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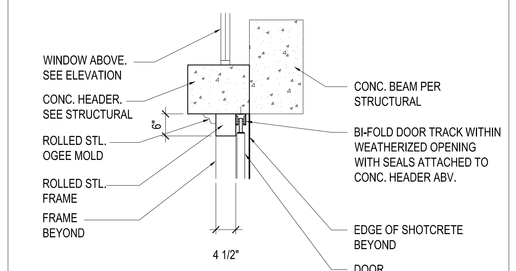
SCALE: 1/8"=1'-0" BS_POWER.dwg 25



TYP. DOOR HEAD @ BARN DOOR
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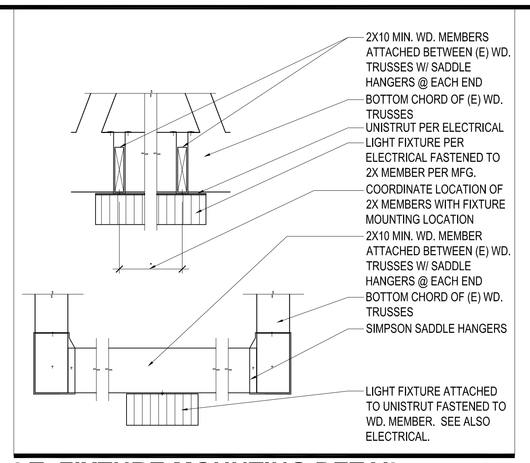

LT. FIXTURE MOUNTING DETAIL
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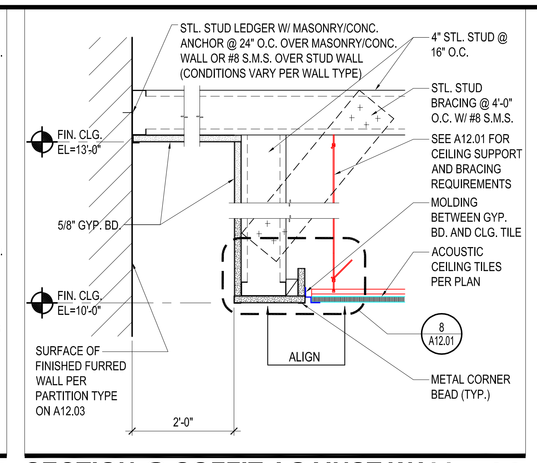

SECTION @ SOFFIT AGAINST WALL
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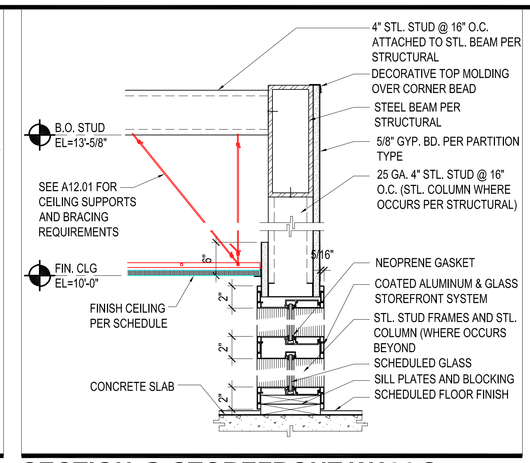

SECTION @ STOREFRONT WALLS
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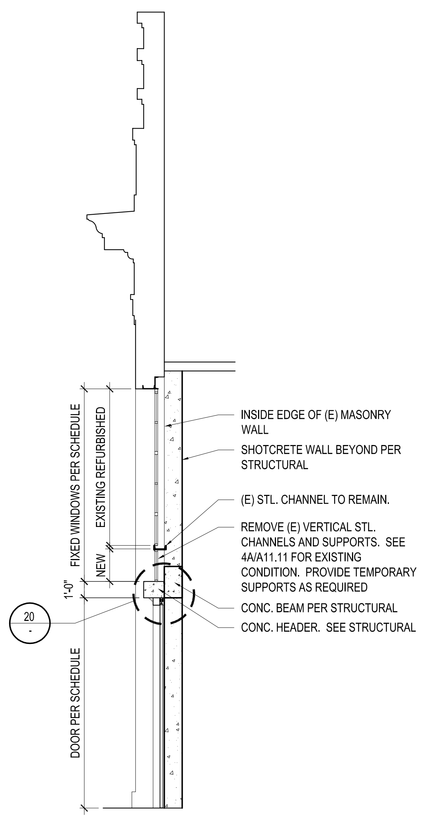

SECTION @ WINDOW/DOOR
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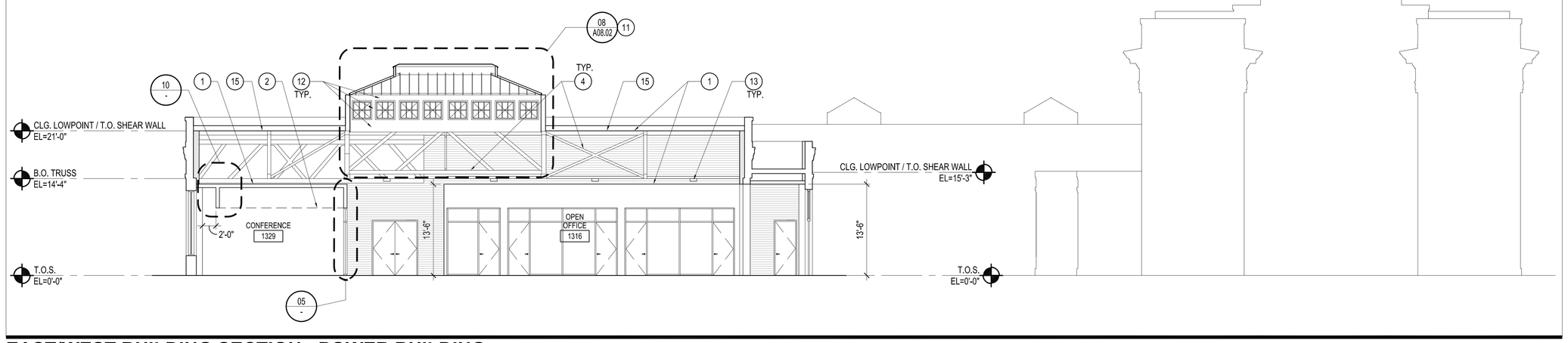
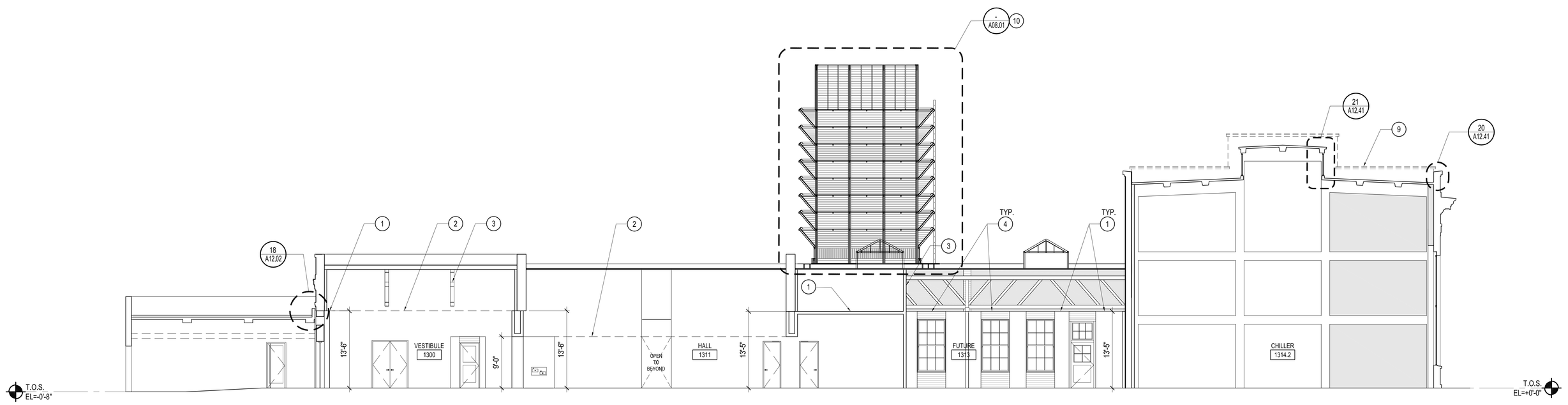


EAST/WEST BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 03



EAST/WEST BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 01

KEY NOTES

1. METAL STUD FRAMED WALL AND/OR CEILING.
2. LINE OF FINISH CEILING PER SCHDULE.
3. EDGE OF CONCRETE SHEAR WALL.
4. EXISTING STRUCTURE.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM (E) EXTERIOR FACE.
6. AIR INTAKE WALL LOUVERS, SEE MECHANICAL DRAWINGS.
7. ROOF DRAIN LEADER. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
8. MECHANICAL PIPING SUPPORT STRUCTURE. SEE STRUCTURAL DRAWINGS.
9. REMOVE (E) HOLLOW CLAY TILE STUCCO WALL FLUSH WITH CONCRETE ROOF DECK. SEE A01.03P.
10. STRUCTURAL RETROFIT AND ASSOCIATED ARCHITECTURAL WORK FOR (E) WOODEN COOLING TOWER. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS.
11. RETROFIT/REBUILD (E) SKYLIGHT STRUCTURE. SEE A08.02.
12. REPAIR/REFURBISH (E) SHEATHING. SEE A08.02.
13. LIGHT FIXTURES PER REFLECTED CEILING PLAN AND ELECTRICAL. SEE 15/A09.15 FOR MOUNTING DETAIL.
14. (E) BRICK SURROUND TO REMAIN, PROTECT IN PLACE. REPLACE BROKEN OR DAMAGE PIECES TO MATCH EXISTING.
15. REPLACE (E) CEILING WITH PLASTER CEILING (TYP.)
16. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.
17. EXPOSED CONCRETE CURB.

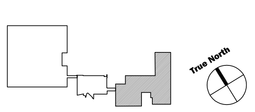
LEGEND

SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

SHEET NOTES

1. ALL MATERIAL AND WORK CALLED OUT OR SHOWN ON PLAN IS NEW UNLESS NOTED OTHERWISE.
2. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWING CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.



KEY PLAN

LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242
CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
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	PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT ANDREW P. COHN No. C 12855 Ren. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A09-15.dwg

Description
BUILDING SECTIONS & MISC. DETAILS
POWER BUILDING

Scale
1/8"=1'-0"

A09.15

Ref. North

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SCALE: 1/8"=1'-0" BS_POWER.dwg 25

SCALE: 1/8"=1'-0" BS_POWER.dwg 24

SCALE: 1/8"=1'-0" BS_POWER.dwg 23

SCALE: 1/8"=1'-0" BS_POWER.dwg 22

SCALE: 1/8"=1'-0" BS_POWER.dwg 21

SCALE: 1/8"=1'-0" BS_POWER.dwg 20

SCALE: 1/8"=1'-0" BS_POWER.dwg 15

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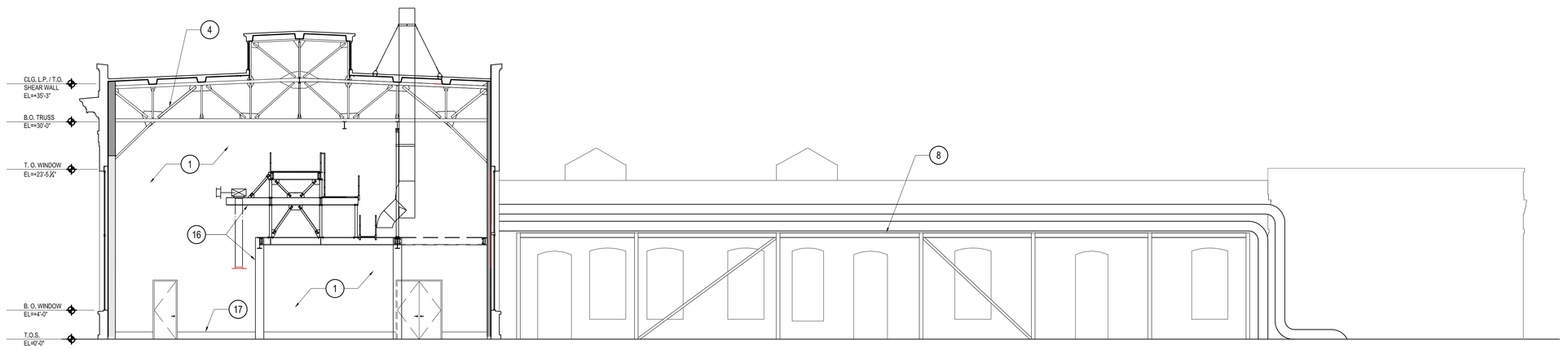
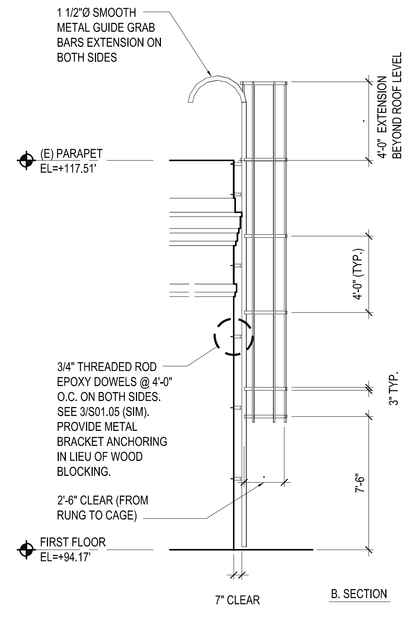
SCALE: 1/8"=1'-0" BS_POWER.dwg 05

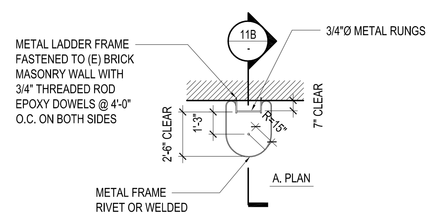


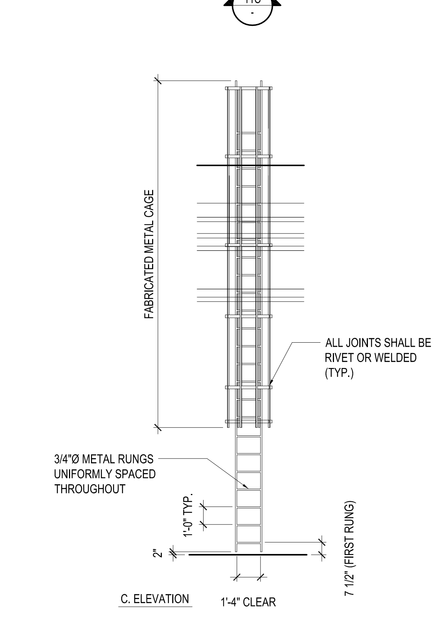
EAST/WEST BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 03

GENERAL NOTES AND REQUIREMENTS

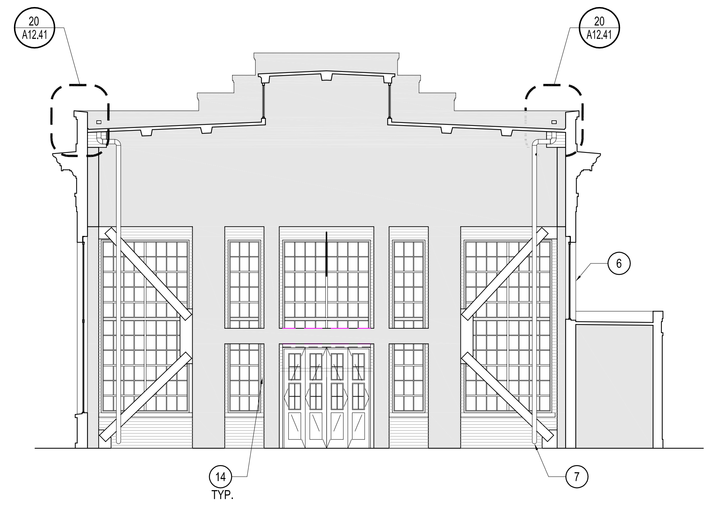
1. ALL DESIGN, DIMENSIONS AND FEATURES SHALL CONFORM TO CAL-OSHA STANDARDS AND REQUIREMENTS. VERIFY DRAWINGS AGAINST THE MOST CURRENT SAFETY STANDARDS AND SUBMIT SHOP DRAWINGS THAT COMPLIES WITH CAL-OSHA REQUIREMENTS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR INSTALLATION. FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS.
2. ALL METAL SURFACES SHALL BE PAINTED (WHERE REQUIRED) WITH HIGH PERFORMANCE PAINT WITH COLOR APPROVED BY THE ARCHITECT. COMPLY WITH ALL CAL-OSHA STANDARDS ON SURFACES REQUIRING SAFETY COLORS.
3. THE DESIGN INTENT IS TO MATCH THE EXISTING LADDER IN ITS APPEARANCE TO BE CONSISTENT WITH THE HISTORIC NATURE OF THE BUILDING. THE LADDER SHALL AT THE MINIMUM RESEMBLE THE GENERAL DESIGN AND APPEARANCE OF THE EXISTING LADDER.







LADDER PLAN, SECTION & ELEVATION
SCALE: 1/4"=1'-0" BS_POWER.dwg 11



EAST/WEST BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 01

KEY NOTES

1. METAL STUD FRAMED WALL AND/OR CEILING.
2. LINE OF FINISH CEILING PER SCHDULE.
3. EDGE OF CONCRETE SHEAR WALL.
4. EXISTING STRUCTURE.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM (E) EXTERIOR FACE.
6. AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
7. ROOF DRAIN LEADER. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
8. MECHANICAL PIPING SUPPORT STRUCTURE. SEE STRUCTURAL DRAWINGS.
9. REMOVE (E) HOLLOW CLAY TILE STUCCO WALL FLUSH WITH CONCRETE ROOF DECK. SEE A01.03P.
10. STRUCTURAL RETROFIT AND ASSOCIATED ARCHITECTURAL WORK FOR (E) WOODEN COOLING TOWER. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS.
11. RETROFIT/REBUILD (E) SKYLIGHT STRUCTURE. SEE A08.02.
12. REPAIR/REFURBISH (E) SHEATHING. SEE A08.02.
13. LIGHT FIXTURES PER REFLECTED CEILING PLAN AND ELECTRICAL. SEE 15/A09.15 FOR MOUNTING DETAIL.
14. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGE PIECES TO MATCH EXISTING.
15. REPLACE (E) CEILING WITH PLASTER CEILING (TYP.)
16. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.
17. EXPOSED CONCRETE CURB.

LEGEND

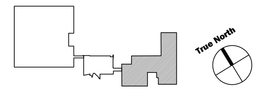
SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

SHEET NOTES

1. ALL MATERIAL AND WORK CALLED OUT OR SHOWN ON PLAN IS NEW UNLESS NOTED OTHERWISE.
2. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWING CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.

KEY PLAN



LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5850

	Issue	Date & Issue Description	By	Check
--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
--	04	04/06/09	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
--	05	06/24/09	LA/NB	LA/NB
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		PROGRESS SET FOR REVIEW		
--	08	12/17/10	LA/NB	LA/NB
		PLAN CHECK SUBMITTAL		
--	09	04/01/11	LA/NB	LA/NB
		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT ANDREW P. CORBIN No. C 12855 Exp. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A09-17.dwg

Description
BUILDING SECTIONS
POWER BUILDING

Scale
1/8"=1'-0"

A09.17

Ref. North

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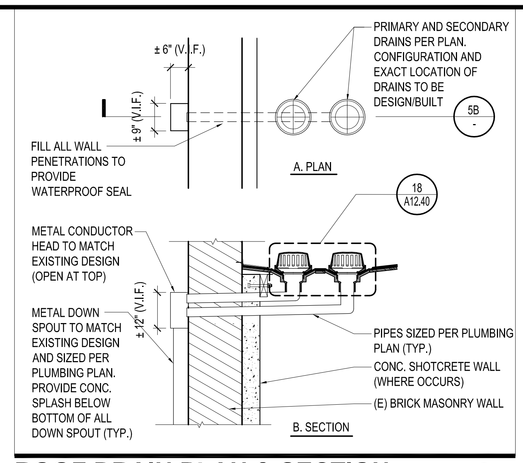
SCALE: 1/8"=1'-0" BS_POWER.dwg 25

SCALE: 1/8"=1'-0" BS_POWER.dwg 20

SCALE: 1/8"=1'-0" BS_POWER.dwg 15

SCALE: 1/8"=1'-0" BS_POWER.dwg 10



ROOF DRAIN PLAN & SECTION

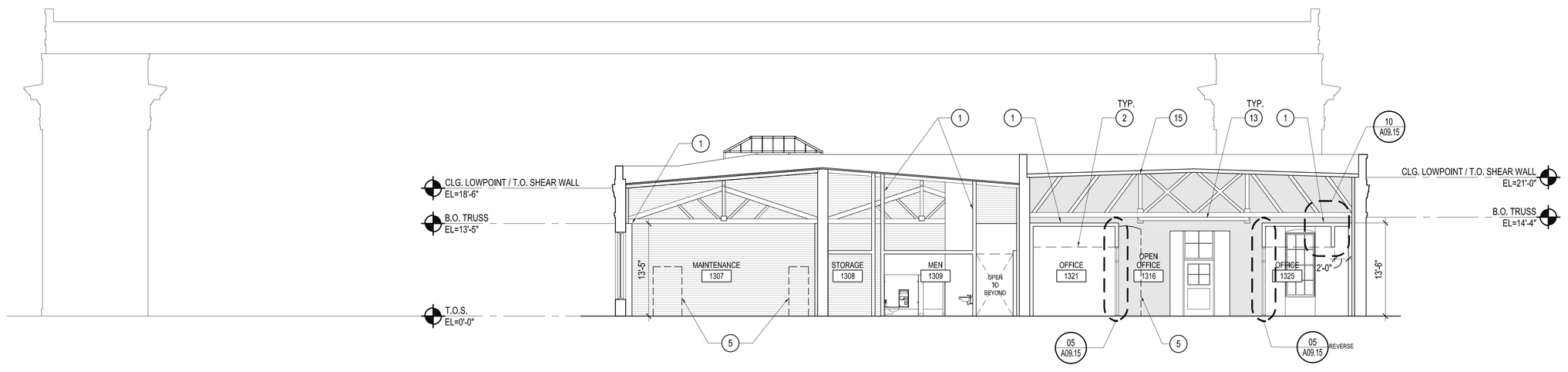
SCALE: 1/8"=1'-0" BS_POWER.dwg 05

KEY NOTES

1. METAL STUD FRAMED WALL AND/OR CEILING.
2. LINE OF FINISH CEILING PER SCHDULE.
3. EDGE OF CONCRETE SHEAR WALL.
4. EXISTING STRUCTURE.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM (E) EXTERIOR FACE.
6. AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
7. ROOF DRAIN LEADER. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
8. MECHANICAL PIPING SUPPORT STRUCTURE. SEE STRUCTURAL DRAWINGS.
9. REMOVE (E) HOLLOW CLAY TILE STUCCO WALL FLUSH WITH CONCRETE ROOF DECK. SEE A01.03P.
10. STRUCTURAL RETROFIT AND ASSOCIATED ARCHITECTURAL WORK FOR (E) WOODEN COOLING TOWER. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS.
11. RETROFIT/REBUILD (E) SKYLIGHT STRUCTURE. SEE A08.02.
12. REPAIR/REFURBISH (E) SHEATHING. SEE A08.02.
13. LIGHT FIXTURES PER REFLECTED CEILING PLAN AND ELECTRICAL. SEE 15/A09.15 FOR MOUNTING DETAIL.
14. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGE PIECES TO MATCH EXISTING.
15. REPLACE (E) CEILING WITH PLASTER CEILING (TYP.)
16. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.
17. EXPOSED CONCRETE CURB.

SCALE: 1/8"=1'-0" BS_POWER.dwg 24

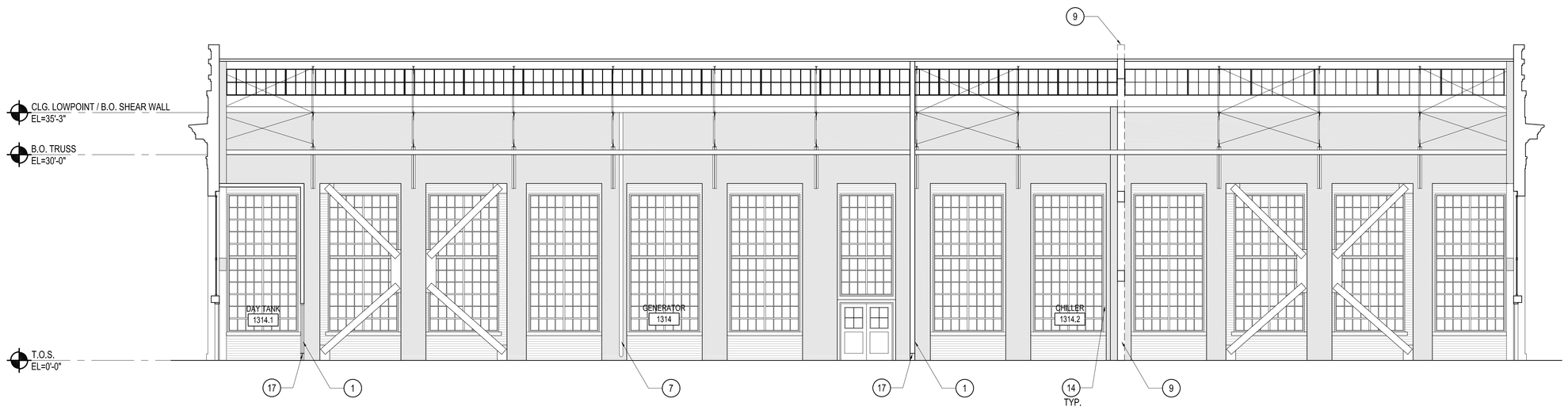
SCALE: 1/8"=1'-0" BS_POWER.dwg 23



NORTH/SOUTH BUILDING SECTION - POWER BUILDING

SCALE: 1/8"=1'-0" BS_POWER.dwg 03

SCALE: 1/8"=1'-0" BS_POWER.dwg 22



SCALE: 1/8"=1'-0" BS_POWER.dwg 21

NORTH/SOUTH BUILDING SECTION - POWER BUILDING

SCALE: 1/8"=1'-0" BS_POWER.dwg 01

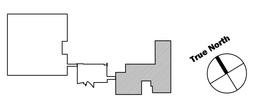
LEGEND

SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

SHEET NOTES

1. ALL MATERIAL AND WORK CALLED OUT OR SHOWN ON PLAN IS NEW UNLESS NOTED OTHERWISE.
2. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWING CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.



KEY PLAN

LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5850

	Issue	Date & Issue Description	By	Check
--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
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		PLAN CHECK SUBMITTAL		
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		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT — ANDREW P. COMOS — No. C 12855 Rem. 12-31-11 — STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
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Description
BUILDING SECTIONS & ROOF DRAIN DETAILS
POWER BUILDING

Scale
1/8"=1'-0"

A09.16

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SCALE: 1/8"=1'-0" BS_POWER.dwg 25

SCALE: 1/8"=1'-0" BS_POWER.dwg 20

SCALE: 1/8"=1'-0" BS_POWER.dwg 15

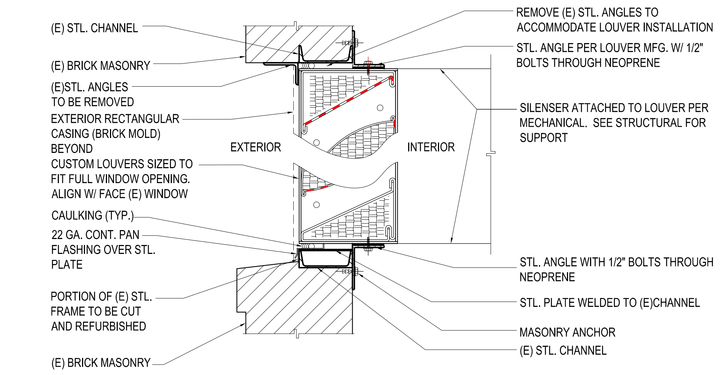
SCALE: 1/8"=1'-0" BS_POWER.dwg 10

SCALE: 1/8"=1'-0" BS_POWER.dwg 05

SCALE: 1/8"=1'-0" BS_POWER.dwg 24

SCALE: 1/8"=1'-0" BS_POWER.dwg 19

SCALE: 1/8"=1'-0" BS_POWER.dwg 14

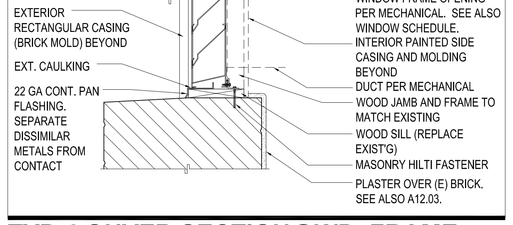


NOTE: ALL STL. MULLIONS/MUNTINS TO BE REMOVED/CUT TO ACCOMMODATE LOUVER INSTALLATION UNLESS NOTED OTHERWISE.

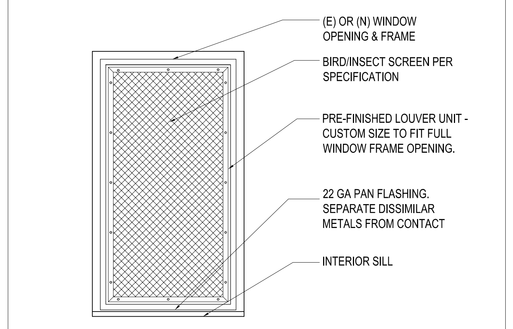
TYP. INTAKE LOUVER @ STL. FRAME WITH SILENCERS
SCALE: 1/8"=1'-0" BS_POWER.dwg 04

SCALE: 1/8"=1'-0" BS_POWER.dwg 23

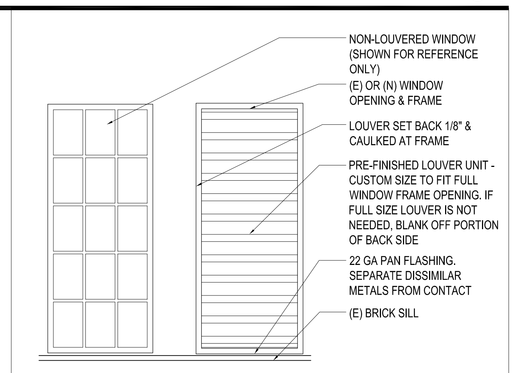
SCALE: 1/8"=1'-0" BS_POWER.dwg 18



TYP. LOUVER SECTION@WD. FRAME
SCALE: N.T.S. BS_POWER.dwg 13



TYP. LOUVER INTERIOR ELEVATION
SCALE: 1/8"=1'-0" BS_POWER.dwg 08

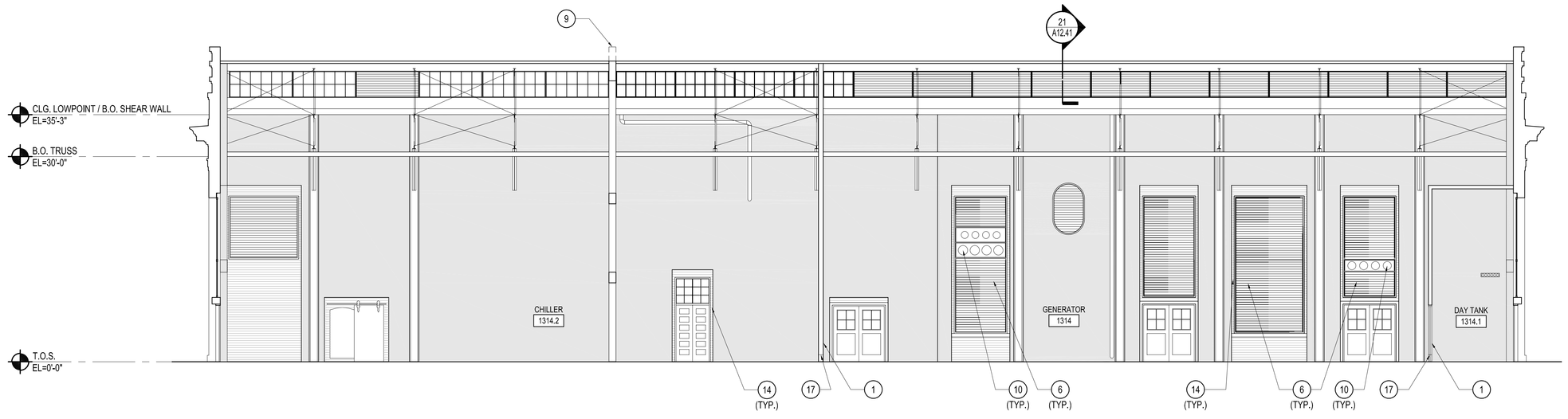


NOTE: COORDINATE AREA REQUIREMENTS WITH MECHANICAL

TYP. LOUVER EXTERIOR ELEVATION
SCALE: N.T.S. BS_POWER.dwg 03

SCALE: 1/8"=1'-0" BS_POWER.dwg 22

SCALE: 1/8"=1'-0" BS_POWER.dwg 21



NORTH/SOUTH BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 01

KEY NOTES

1. METAL STUD FRAMED WALL AND/OR CEILING.
2. LINE OF FINISH CEILING PER SCHDULE.
3. EDGE OF CONCRETE SHEAR WALL.
4. EXISTING STRUCTURE.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM (E) EXTERIOR FACE.
6. AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
7. ROOF DRAIN LEADER. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
8. MECHANICAL PIPING SUPPORT STRUCTURE. SEE STRUCTURAL DRAWINGS.
9. REMOVE (E) HOLLOW CLAY TILE STUCCO WALL FLUSH WITH CONCRETE ROOF DECK. SEE A01.03P.
10. STRUCTURAL RETROFIT AND ASSOCIATED ARCHITECTURAL WORK FOR (E) WOODEN COOLING TOWER. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS.
11. RETROFIT/REBUILD (E) SKYLIGHT STRUCTURE. SEE A08.02.
12. REPAIR/REFURBISH (E) SHEATHING. SEE A08.02.
13. LIGHT FIXTURES PER REFLECTED CEILING PLAN AND ELECTRICAL. SEE 15/A09.15 FOR MOUNTING DETAIL.
14. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGE PIECES TO MATCH EXISTING.
15. REPLACE (E) CEILING WITH PLASTER CEILING (TYP.)
16. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.
17. EXPOSED CONCRETE CURB.

SHEET NOTES

1. REPLACE DAMAGED OR MISSING BRICK AT EXPOSED LOCATIONS. NEW MATERIAL TO MATCH EXISTING.
2. PATCH AND REPAIR CONCRETE SILLS AS REQUIRED.
3. ALL NEW AND EXISTING EXPOSED STEEL TO BE PAINTED.
4. SHOTCRETE OVERLAY TO HAVE A SMOOTH TROWEL FINISH. EXPOSED CORNERS AT OPENINGS TO BE FORMED WITH 90 DEGREE RETURNS AND CHAMFERED EDGES.
5. BACK PRIME ALL WOOD.
6. BOTTOM END OF ALL FRAMES AND TRIM SHALL BE TREATED AFTER BEING CUT TO FIT SILL/THRESHOLD.
7. BEVEL BOTTOM OF DOOR TO DRIP
8. ATTACHMENT AT JAMBS SHALL EITHER BE TO EXISTING BLOCKS, BUCKS OR WITH EXPANSION ANCHORS AND COUNTERSUNK SCREWS.
9. VERIFY THAT HINGES AND STRIKES HAVE BACKINGS.
10. ALL MATERIALS AND SCOPE NOTED ARE NEW UNLESS NOTED OTHERWISE.
11. ALL VERTICAL STL. MULLIONS ALONG EDGE OF BRICK OPENING SHALL BE CUT TO FLUSH WITH SURFACE OF BRICK JAMB TO ALLOW LOUVER INSTALLATION.
12. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION ON LOUVER AND DAMPER REQUIREMENTS.
13. VERIFY ALL FIELD CONDITION FOR JAMB, HEAD AND SILL AND NOTIFY ANY DISCREPANCY TO THE ATTENTION OF THE ARCHITECT PRIOR TO COMMENCING WORK.

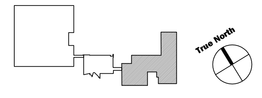
LEGEND

SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

1. ALL MATERIAL AND WORK CALLED OUT OR SHOWN ON PLAN IS NEW UNLESS NOTED OTHERWISE.
2. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWING CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.

KEY PLAN



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Seal/Signature

LICENSED ARCHITECT ANDREW P. CORBIN No. C 12855 Ren. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A09-18.dwg

Description
BUILDING SECTIONS & LOUVER SECTIONS/DETAILS @ POWER BUILDING

Scale
1/8"=1'-0"

A09.18

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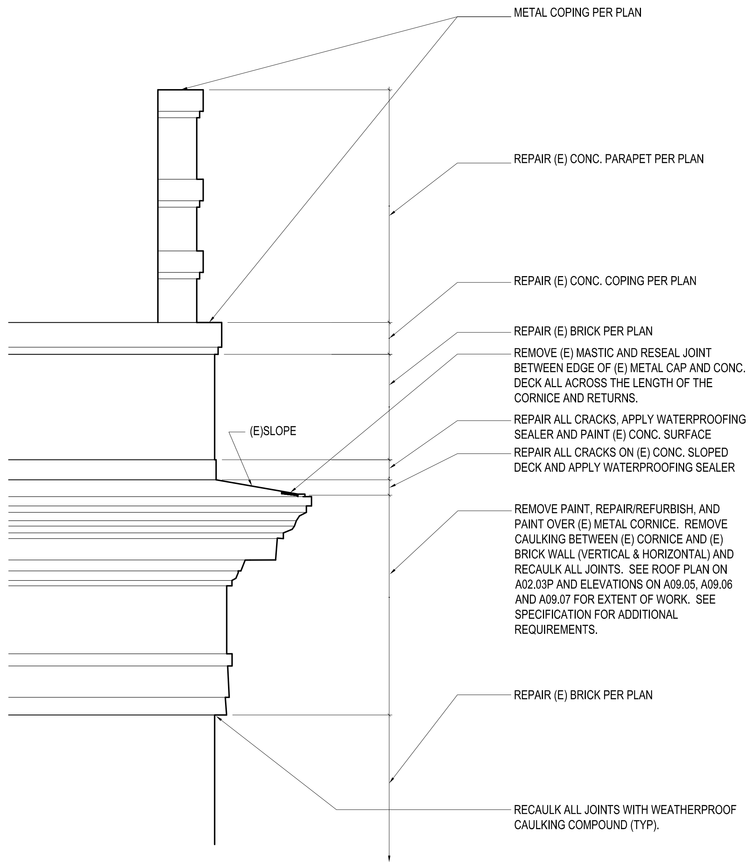
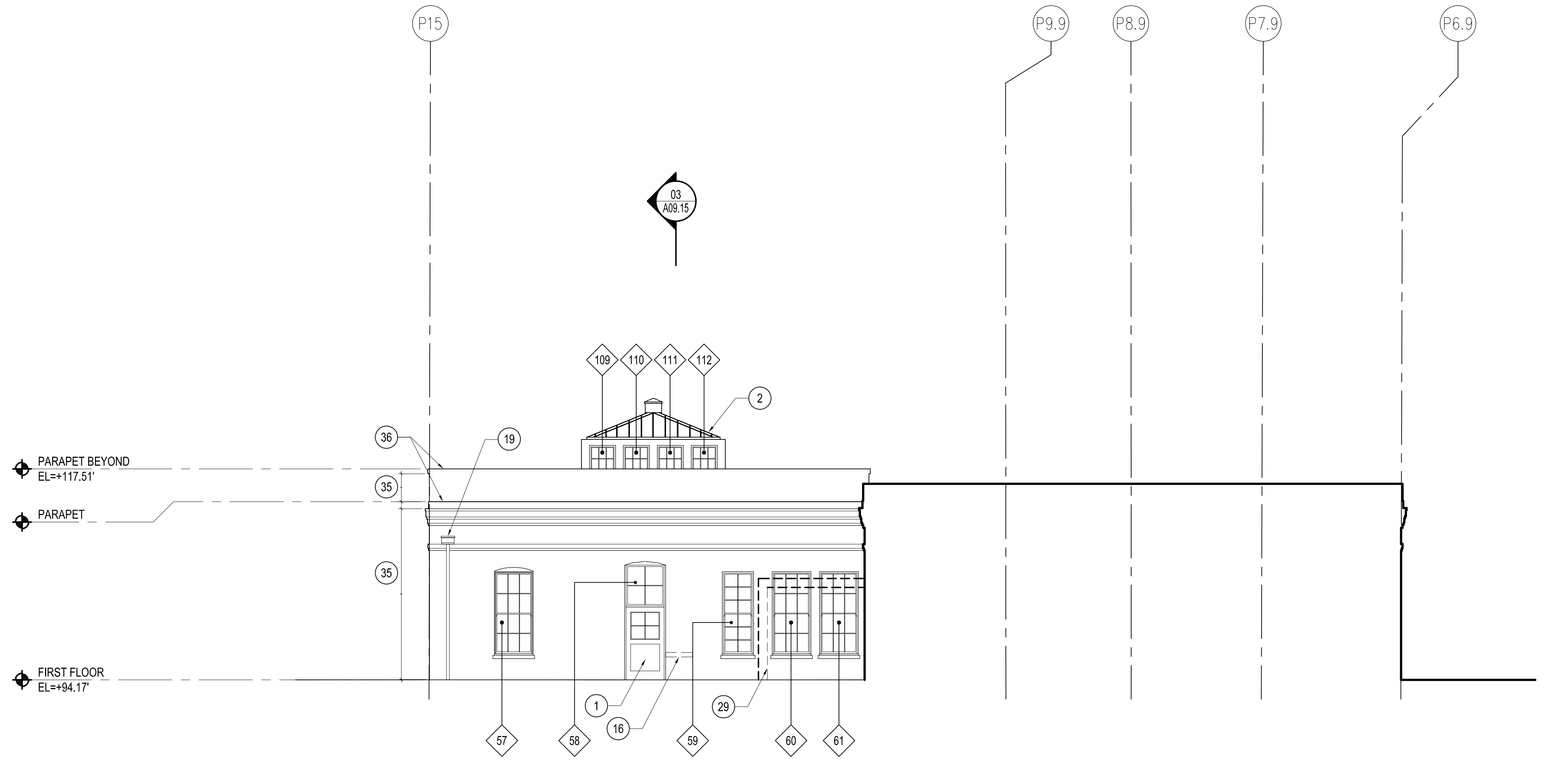


NOTE:
FIELD VERIFY EXISTING CONDITION AT THE TIME OF BIDDING FOR ACCURATE ASSESSMENT OF DAMAGE AND EXTENT OF REQUIRED REPAIR

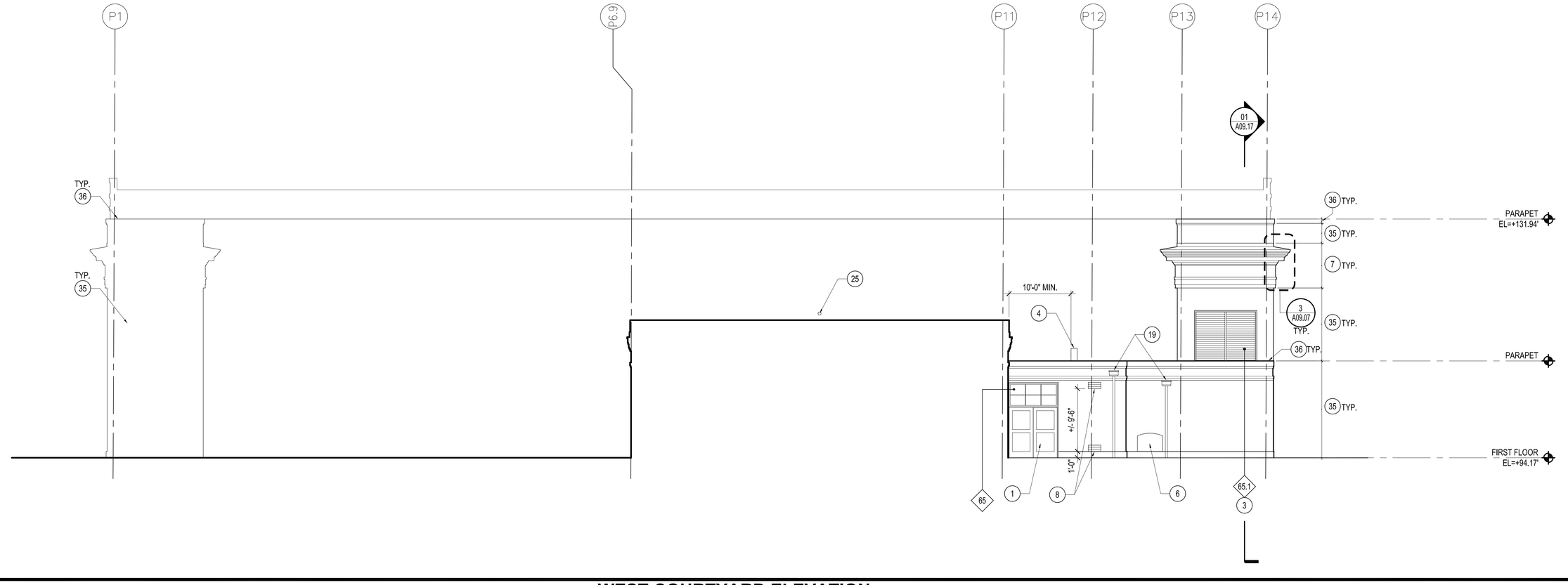
ENLARGED PROFILE @ METAL CORNICE

SCALE: 1/2"=1'=0" EE_0906-96.dwg **03**



EAST COURTYARD ELEVATION

SCALE: 1/8"=1'=0" EE_0906-96.dwg **02**



WEST COURTYARD ELEVATION

SCALE: 1/8"=1'=0" EE_0906-96.dwg **01**

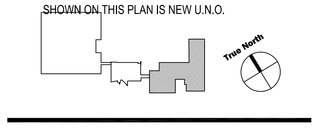
KEY NOTES

1. PAINTED CUSTOM DOOR, FRAME, AND HARDWARE. SEE DOOR SCHEDULE.
2. REBUILD/REFURBISH EXISTING SKYLIGHT, CURBS, WALLS AND REGLAZE. SEE A08.02 AND STRUCTURAL DRAWINGS FOR SCOPE.
3. PAINTED CUSTOM MECHANICAL LOUVERS BEHIND EXISTING/NEW WINDOW FRAME PER WINDOW SCHEDULE. SEE MECH. DRAWINGS FOR PIPE PENETRATIONS. PROVIDE WATER PROOFING AT ALL PENETRATIONS. SEE A09.18
4. PAINTED MECHANICAL FLUE SHOWN FOR REFERENCE. SEE MECHANICAL DRAWINGS.
5. MECHANICAL PIPING. SEE MECHANICAL DRAWINGS. PROVIDE WATERPROOFING.
6. INFILL EXISTING WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE EXISTING COURSING AND RECESS INFILL 1" FROM EXISTING EXTERIOR FACE.
7. REFURBISH AND PAINT (E) METAL CORNICE. RESEAL JOINT BETWEEN METAL CAP AND CONCRETE DECK AT CORNICE PER 3/A09.07. FIELD VERIFY CONDITION OF (E) CORNICE.
8. MECHANICAL LOUVERS. SEE MECH. DRAWINGS.
9. DAY TANK VENT OPENINGS. REMOVE FULL BRICKS FOR OPENINGS. PROVIDE FLASHING AND WATERPROOFING. SEE PENETRATION DETAILS AND REQUIREMENTS ON 19/A12.00.
10. REFURBISH AND PAINT (E) ROOF ACCESS LADDER.
11. PAINTED FIXED CAGED ROOF ACCESS LADDER TO MATCH EXISTING.
12. GOOSENECK EXTERIOR LIGHT FIXTURE TO MATCH EXISTING OR ORIGINAL. SEE ALSO ELECTRICAL.
13. ROOF DRAIN OUTLET.
14. PATCH AND REPAIR OPENING AND CONCRETE CURB AT (E) ROOF DRAIN LOCATION.
15. INFILL EXISTING OPENING FLUSH WITH EXTERIOR FACADE. MATERIAL AND COURSING TO MATCH EXISTING.
16. REMOVE (E) ANGLES AND REMAINING DOOR / WINDOW / GATE ACCESSORIES.
17. CUSTOM TRANSOM WINDOW TO MATCH (E) STEEL WINDOWS.
18. REMOVE (E) INFILL MATERIAL AT JOINT AND REPOINT.
19. PAINTED CUSTOM CONDUCTOR HEAD AND DOWNSPOUT TO MATCH EXISTING DESIGN. TERMINATE DOWNSPOUT AT GRADE ABOVE NEW SPLASH BLOCK.
20. ROOF SCUPPER, PROFILE AND MATERIAL TO MATCH EXISTING.
21. REPAIR AND PAINT (E) STUCCO PLASTER.
22. REFURBISH AND PAINT (E) METAL GRILLES.
23. REMOVE (E) HOLLOW TILE STUCCO WALL.
24. CONCRETE SILL TO MATCH EXISTING.
25. ROOF DRAIN AT (E) BUILDING OUTLET.
26. REFURBISH AND PAINT (E) METAL CLAD WOOD DOORS.
27. REPAIR AND PAINT (E) STUCCO PLASTER HEADER.
28. PAINTED CONC. HEADER. VERIFY HEADER IN FIELD.
29. REFURBISH AND PAINT (E) GANTRY STRUCTURE.
30. PATCH AND PAINT (E) STUCCO PLASTER COLUMN AND BASE.
31. REFURBISH (E) LIGHT FIXTURE.
32. (E) WATER TOWER AND TANK TO BE PAINTED WITH HIGH PERFORMANCE PAINT. SEE SPECIFICATION FOR PROCEDURES ON PAINT REMOVAL AND PREPARATION WORK. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
33. (E) CHIMNEY. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
34. STRUCTURAL RETROFIT AND RELATED ARCHITECTURAL WORK. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS
35. REMOVE (E) PAINT AND COATINGS; REPOINT, CLEAN AND RESTORE TO ORIGINAL BRICK FINISH; AND APPLY SPECIFIED SEALER.
36. REPAIR (E) CONC. OR MASONRY COPING AND APPLY PAINT. SEE ALSO PARAPET & ROOFING DETAILS FOR ADDITIONAL SCOPE.
37. REPAIR/REPLACE (E) CLERESTORY WINDOWS. SEE WINDOW SCHEDULE AND CORRESPONDING DETAILS.
38. REPAIR (E) DAMAGED BRICK MASONRY. REPLACE BRICKS AS NEEDED TO MATCH ADJACENT SURFACES.
39. OPENING FOR MECHANICAL DUCTS AND/OR PIPES (TYP). SEE MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTRUAL DRAWINGS FOR REQUIRED COORDINATION.

SHEET NOTES

1. REFER TO THE SPECIFICATION FOR DESCRIPTION AND PROCEDURES OF REQUIRED HISTORIC TREATMENT FOR "REFURBISH" AND "REPAIR" SCOPE.
2. REMOVE EXISTING PAINT AND COATINGS FROM THE EXTERIOR MASONRY AND EXTERIOR SURFACES. RESTORE AND CLEAN TO ORIGINAL UNFINISHED CONDITION AND APPLY SELAER PER SPECIFICATION.
3. REMOVE ALL ELECTRICAL CONDUIT, ELECTRICAL DEVICES, LIGHT FIXTURES, VENT COVERS, MISC. METAL AND MISC. PLUMBING LINES ON BUILDING FACADE.
4. PATCH, REPAIR, CLEAN AND SEAL CONCRETE BASE, SILL AND PARAPET CAP AS REQUIRED.
5. RESEAL TRANSITION BETWEEN METAL CORNICE AND BRICK AS REQUIRED. SEE SPECIFICATION.
6. REPOINT ENTIRE EXISTING MASONRY FACADE. APPLY PROTECTIVE MASONRY SEALER AT ALL BRICK MASONRY SURFACES.
7. PATCH AND REPAIR HOLES IN EXISTING FACADE TO MATCH SURROUNDING FIELD. REPLACE DAMAGED OR MISSING BRICK AT FACADE, WINDOW SILL AND PARAPET AS REQUIRED. NEW MATERIAL TO MATCH EXISTING. PROVIDE ALLOWANCE OF 600 UNITS OF BRICK REPLACEMENT OVERALL BEYOND SCOPE SPECIFICALLY IDENTIFIED ON PLAN. PROVIDE UNIT PRICE AT THE TIME OF BIDDING.
8. REGLAZE EXISTING WINDOWS. REFER TO ARCHITECTURAL WINDOW SCHEDULE FOR GLASS TYPE AND SCOPE.
9. REPAIR, REFURBISH AND PAINT EXISTING STEEL AND WOOD WINDOW FRAMES. SEE ARCHITECTURAL WINDOW SCHEDULE.
10. SEE DOOR SCHEDULE FOR NEW AND REFURBISH SCOPE.
11. ALL MATERIAL AND SCOPE CALLED OUT OR SHOWN ON THIS PLAN IS NEW U.N.O.

KEY PLAN



LOS ANGELES COUNTY DATA CENTER
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DOWNEY, CA 90242

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△	Issue	Date & Issue Description	By	Check
--	01	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
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Seal/Signature

LICENSED ARCHITECT
ANDREW P. CONGER
No. C 12855
Ren. 12-31-11
STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\SHEETS\A09-07.dwg

Description
EXTERIOR ELEVATIONS POWER BUILDING

Scale
1/8"=1'-0"

A09.07

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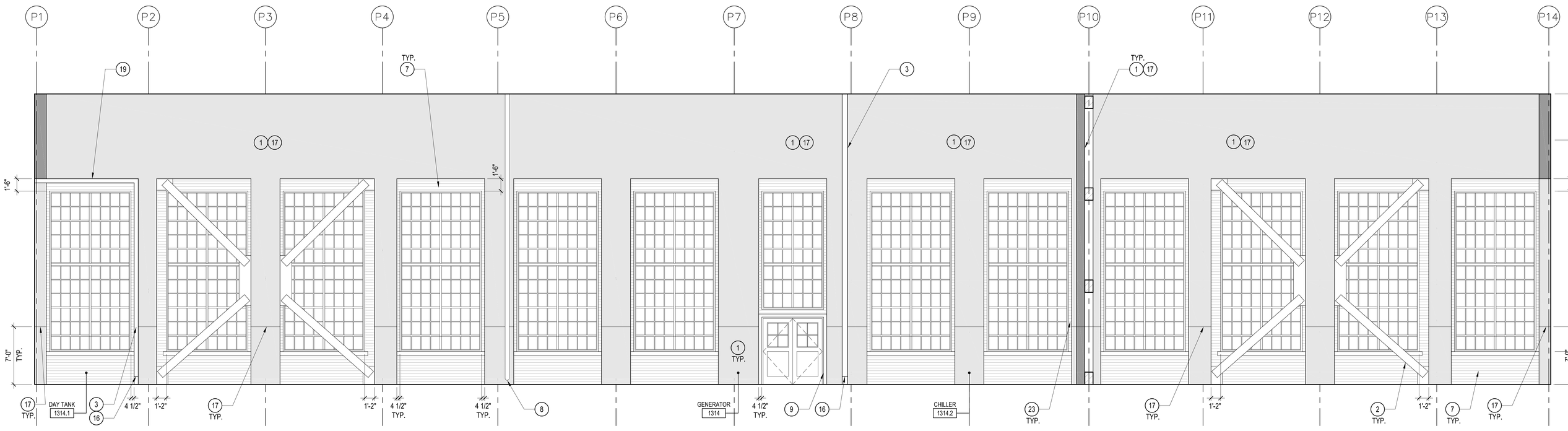
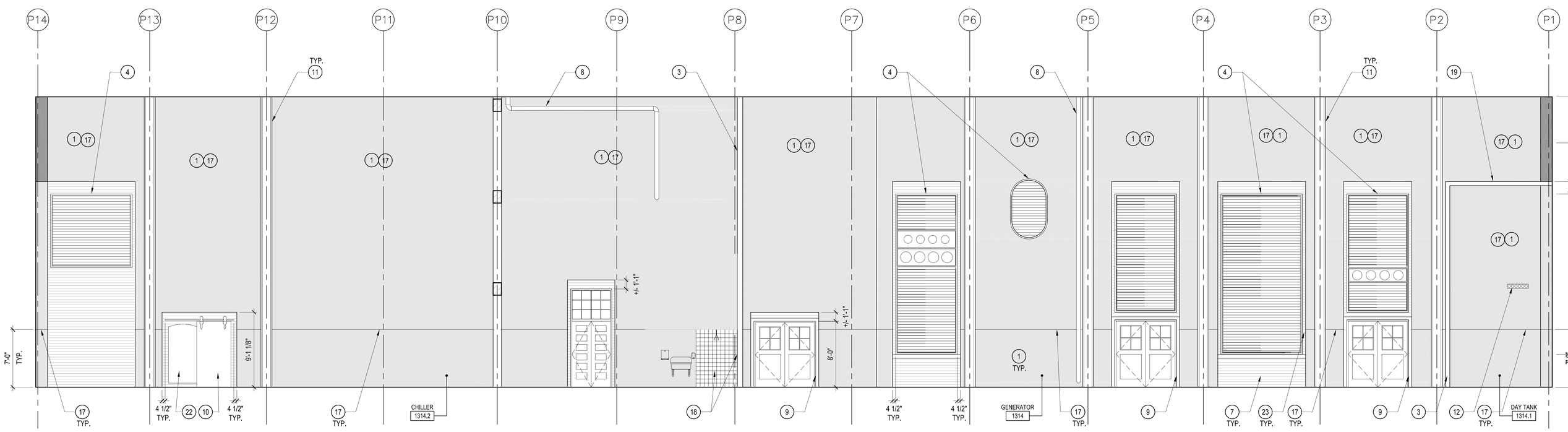


WALL ELEVATION

SCALE: 3/16"=1'-0" IE_POWER-64.dwg

02



WALL ELEVATION

SCALE: 3/16"=1'-0" IE_POWER-64.dwg

01

KEY NOTES

1. SHOTCRETE OVERLAY TO EXISTING WALL. SEE STRUCTURAL DRAWINGS.
2. PAINTED BUCKLING RESTRAINED BRACES WITH GUSSETS. SEE STRUCTURAL DRAWINGS.
3. METAL STUD WALL PER PLAN.
4. PAINTED AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM EXISTING WALL FACE.
6. INFILL EXISTING WALL OPENING WITH METAL STUD WALL.
7. (E) BRICK WALL TO REMAIN. PROTECT IN PLACE.
8. ROOF DRAIN LEADER. UTILIZE (E) WALL OPENING. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
9. PAINTED WOOD DOOR TRIM TO MATCH EXISTING.
10. (E) DOOR AND HARDWARE TO REMAIN. PROTECT IN PLACE.
11. REVEALS IN SHOTCRETE OVERLAY AT EXPOSED (E) STEEL COLUMNS.
12. WALL OPENING FOR DAY TANK VENTING WITH SCREEN. SEE FUEL OIL DRAWINGS. REMOVE FULL BRICKS TO CREATE OPENING. PROVIDE FLASHING AND WATERPROOFING AT NEW OPENINGS AS REQUIRED TO MAINTAIN WATERPROOFING OF THE BUILDING.
13. ROOF DRAIN LEADER. RELOCATE WALL OPENING AND PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
14. (E) WALL OPENING TO REMAIN.
15. DEPRESSED SLAB.
16. EXPOSED CONCRETE CURB
17. ACOUSTICAL BOARD OVER SHOTCRETE WALL 7' AFF (TYP.)
18. CERAMIC TILE WAINSCOAT.
19. ONE-HOUR RATED CEILING ASSEMBLY. FILL ALL PENETRATION AND SLEEVE AROUND PIPES WITH UL-APPROVED MATERIAL PER 19/A12.00. SEE PARTITION TYPE 15 IN A12.03.
20. GYP. BD. CEILING, PAINTED SUPPORTED WITH METAL CHANNELS ABV. PER 1 & 4/A12.01.
21. SMOOTH PLASTER FINISH PAINTED OVER (E) BRICK.
22. CUSTOM SLIDING METAL DOOR AND FRAME TO MATCH EXISTING. PROVIDE DESIGN/BUILD DOOR FOR REVIEW PRIOR TO FABRICATION.
23. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGED PIECES TO MATCH EXISTING.
24. CEILING PER CEILING PLAN.
25. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.

LEGEND

SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

GENERAL NOTES

1. REPLACE DAMAGED OR MISSING BRICK AT EXPOSED LOCATIONS. NEW MATERIAL TO MATCH EXISTING.
2. PATCH AND REPAIR CONCRETE SILLS AS REQUIRED.
3. ALL NEW AND EXISTING EXPOSED STEEL TO BE PAINTED.
4. SHOTCRETE OVERLAY TO HAVE A SMOOTH TROWEL FINISH. EXPOSED CORNERS AT OPENINGS TO BE FORMED WITH 90 DEGREE RETURNS AND CHAMFERED EDGES.
5. ALL MATERIALS AND SCOPE CALLED OUT OR SHOWN ON PLAN IS NEW U.N.O.
6. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWINGS CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.

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	Issue	Date & Issue Description	By	Check
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--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
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Seal/Signature

LICENSED ARCHITECT ANDREW P. CURRY No. C 12855 Ren. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A11-06.dwg

Description
INTERIOR ELEVATIONS - POWER BUILDING

Scale
3/16"=1'-0"

A11.06

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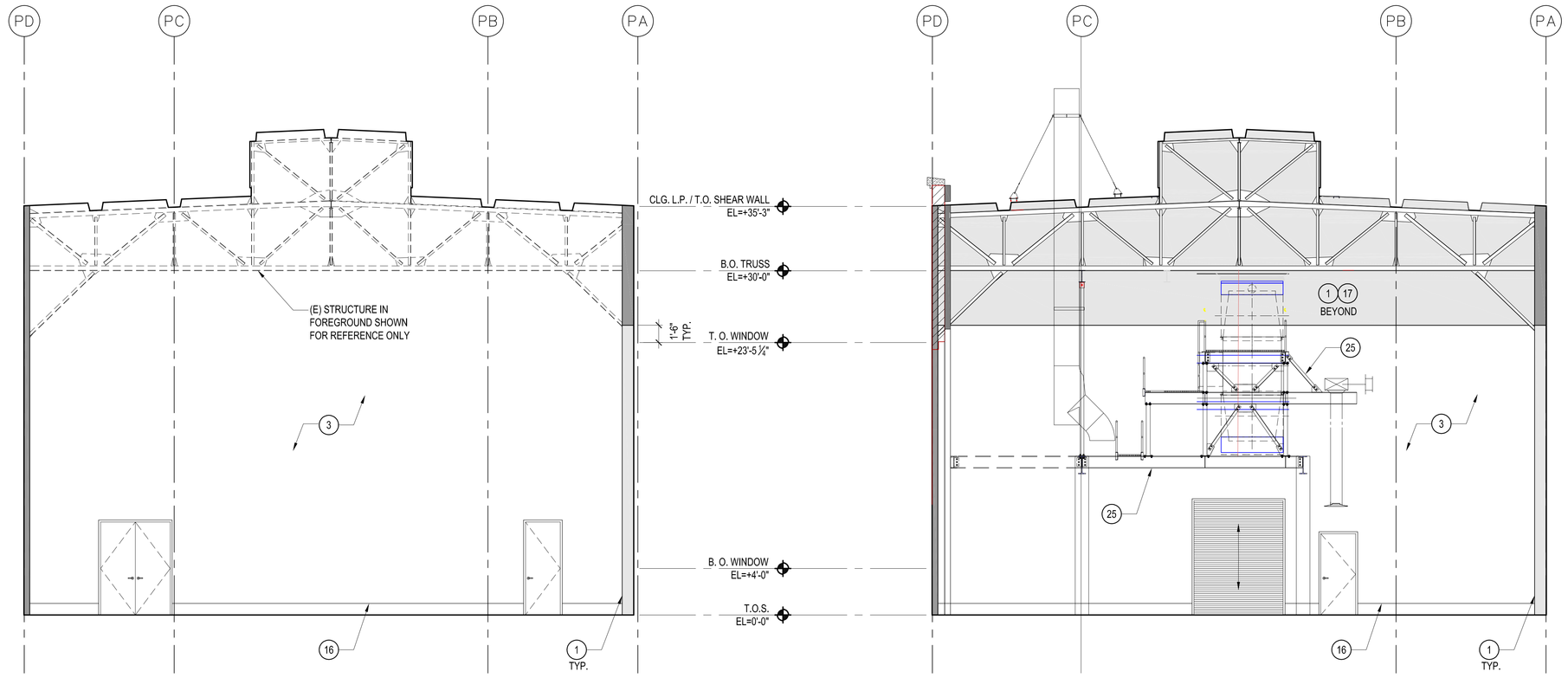

WALL ELEVATION 06
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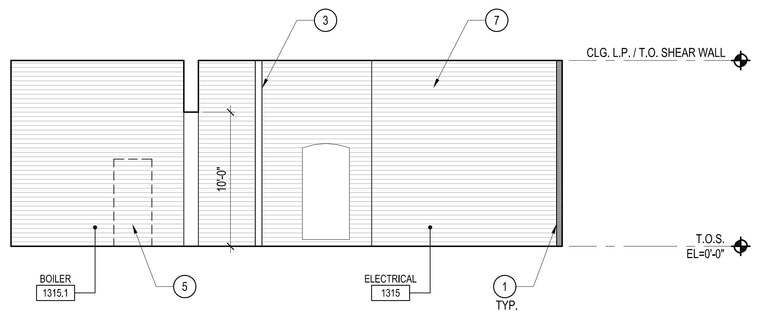
WALL ELEVATION 03
SCALE: 3/16"=1'-0" IE_POWER-64.dwg



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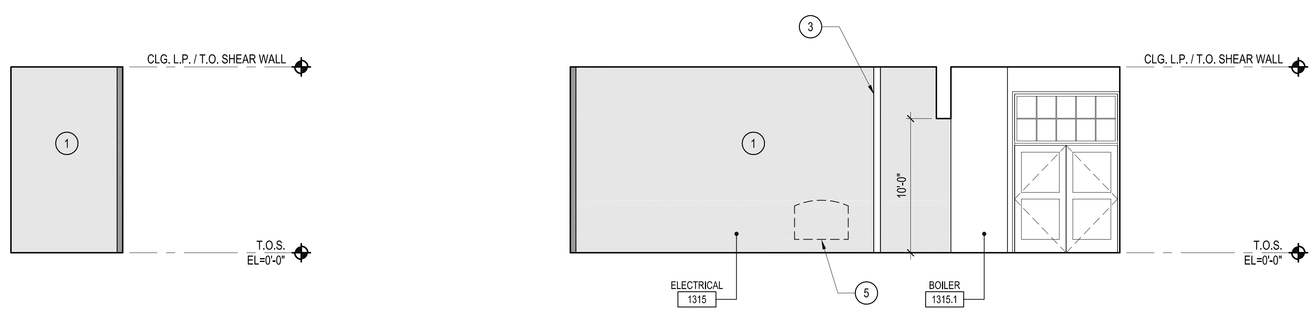

WALL ELEVATION 07
SCALE: 3/16"=1'-0" IE_POWER-64.dwg

WALL ELEVATION 05
SCALE: 3/16"=1'-0" IE_POWER-64.dwg

WALL ELEVATION 04
SCALE: 3/16"=1'-0" IE_POWER-64.dwg

WALL ELEVATION 01
SCALE: 3/16"=1'-0" IE_POWER-64.dwg

KEY NOTES

1. SHOTCRETE OVERLAY TO (E) WALL. SEE STRUCTURAL DRAWINGS.
2. PAINTED BUCKLING RESTRAINED BRACES WITH GUSSETS. SEE STRUCTURAL DRAWINGS.
3. METAL STUD WALL PER PLAN.
4. PAINTED AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
5. INFILL (E) WALL OPENING, MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM EXISTING WALL FACE.
6. INFILL (E) WALL OPENING WITH METAL STUD WALL.
7. (E) BRICK WALL TO REMAIN. PROTECT IN PLACE.
8. ROOF DRAIN LEADER. UTILIZE (E) WALL OPENING. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
9. PAINTED WOOD DOOR TRIM TO MATCH EXISTING.
10. (E) DOOR AND HARDWARE TO REMAIN. PROTECT IN PLACE.
11. REVEALS IN SHOTCRETE OVERLAY AT EXPOSED (E) STEEL COLUMNS.
12. WALL OPENING FOR DAY TANK VENTING. SEE FUEL OIL DRAWINGS. REMOVE FULL BRICKS TO CREATE OPENING. PROVIDE FLASHING AND WATERPROOFING AT NEW OPENINGS AS REQUIRED TO MAINTAIN WATERPROOFING OF THE BUILDING.
13. ROOF DRAIN LEADER. RELOCATE WALL OPENING AND PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
14. (E) WALL OPENING TO REMAIN.
15. DEPRESSED SLAB.
16. EXPOSED CONCRETE CURB
17. ACOUSTICAL BOARD OVER SHOTCRETE WALL.
18. CERAMIC TILE WAINSCOAT.
19. ONE-HOUR RATED CEILING ASSEMBLY. FILL ALL PENETRATION AND SLEEVE AROUND PIPES WITH UL-APPROVED MATERIAL PER 19/A12.00. SEE PARTITION TYPE 15 IN A12.03.
20. GYP. BD. CEILING, PAINTED SUPPORTED WITH METAL CHANNELS ABV. PER 1 & 4/A12.01.
21. SMOOTH PLASTER FINISH PAINTED OVER EXISTING BRICK.
22. CUSTOM SLIDING METAL DOOR AND FRAME TO MATCH EXISTING. PROVIDE DESIGN/BUILD DOOR FOR REVIEW PRIOR TO FABRICATION.
23. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGED PIECES TO MATCH EXISTING.
24. CEILING PER CEILING PLAN.
25. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.

LEGEND

- SHOTCRETE OVERLAY TO EXISTING WALLS.
- EXISTING BRICK WALL TO REMAIN.

GENERAL NOTES

1. REPLACE DAMAGED OR MISSING BRICK AT EXPOSED LOCATIONS. NEW MATERIAL TO MATCH EXISTING.
2. PATCH AND REPAIR CONCRETE SILLS AS REQUIRED.
3. ALL NEW AND EXISTING EXPOSED STEEL TO BE PAINTED.
4. SHOTCRETE OVERLAY TO HAVE A SMOOTH TROWEL FINISH. EXPOSED CORNERS AT OPENINGS TO BE FORMED WITH 90 DEGREE RETURNS AND CHAMFERED EDGES.
5. ALL MATERIALS AND SCOPE CALLED OUT OR SHOWN ON PLAN IS NEW U.N.O.
6. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWINGS CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.

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Issue	Date & Issue Description	By	Check
-- 01	07/02/07	NB	NB
	50% SD POWER BLDG		
-- 02	05/30/08	LA/NB	LA/NB
	50% CD DATA-ENTRY, 100% DD POWER BLDG		
-- 03	12/11/08	LA/NB	LA/NB
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	PROGRESS SET FOR REVIEW		
-- 08	12/17/10	LA/NB	LA/NB
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Seal/Signature

LICENSED ARCHITECT — ANDREW P. CONDIT — No. C 12855 — Rens. 12-31-11 — STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A11-08.dwg

Description
INTERIOR ELEVATIONS - POWER BUILDING

Scale
3/16"=1'-0"

A11.08

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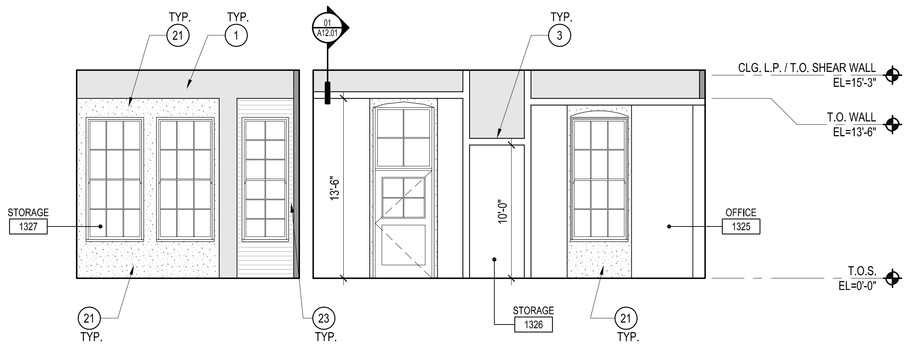

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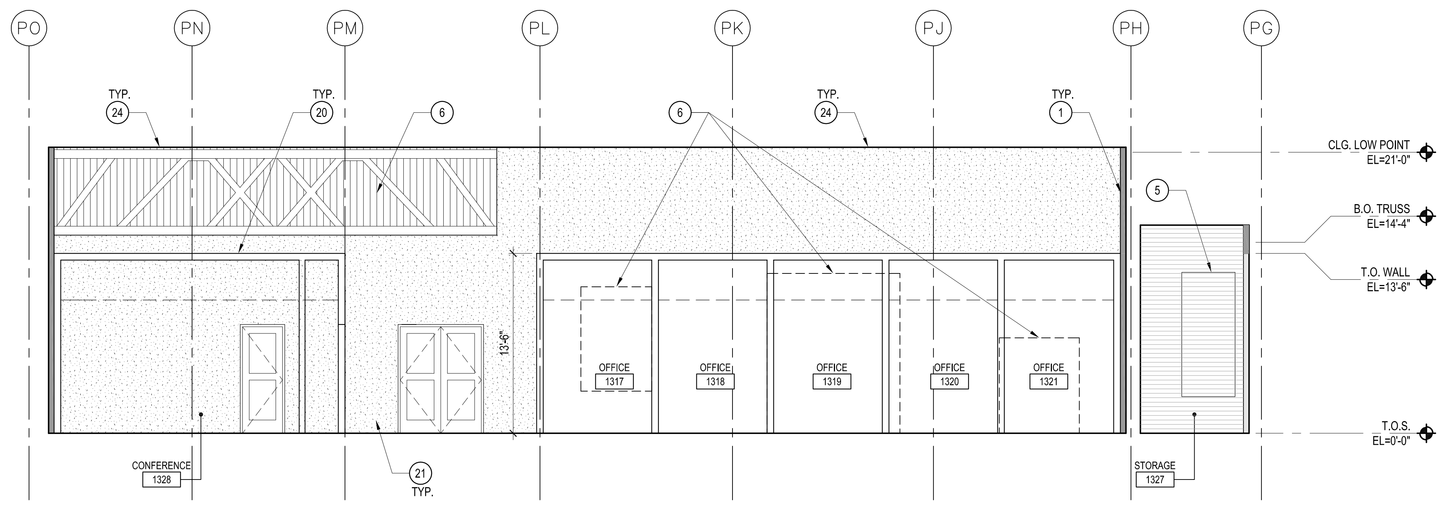

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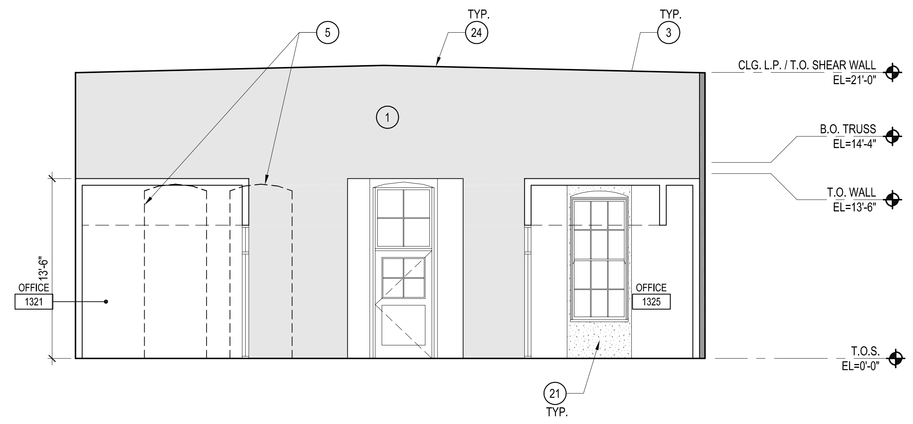

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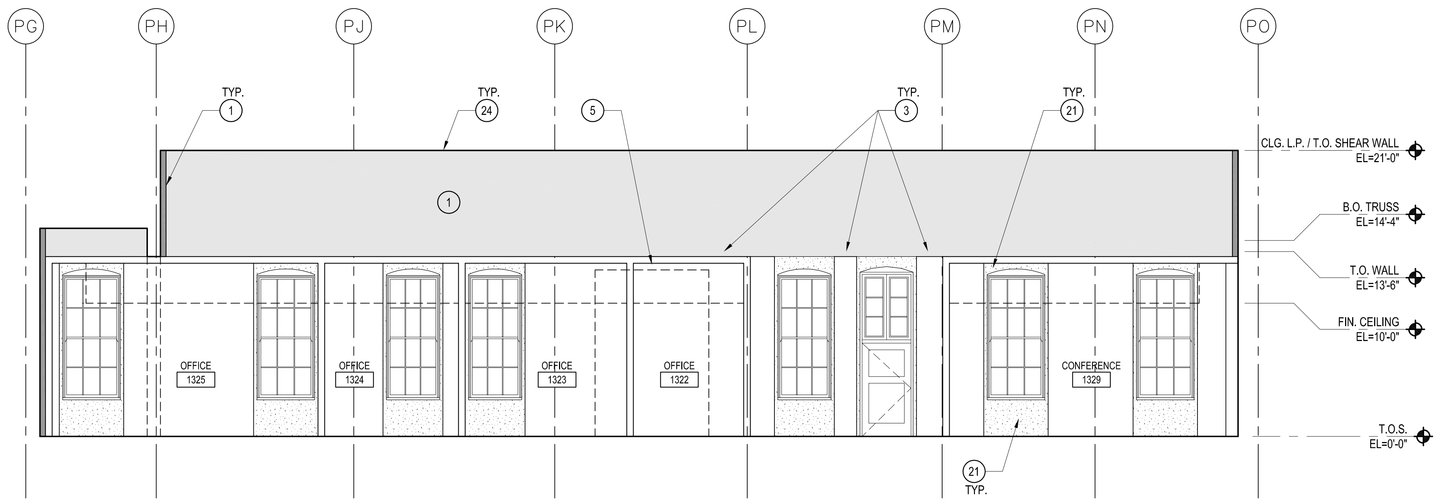

WALL ELEVATION
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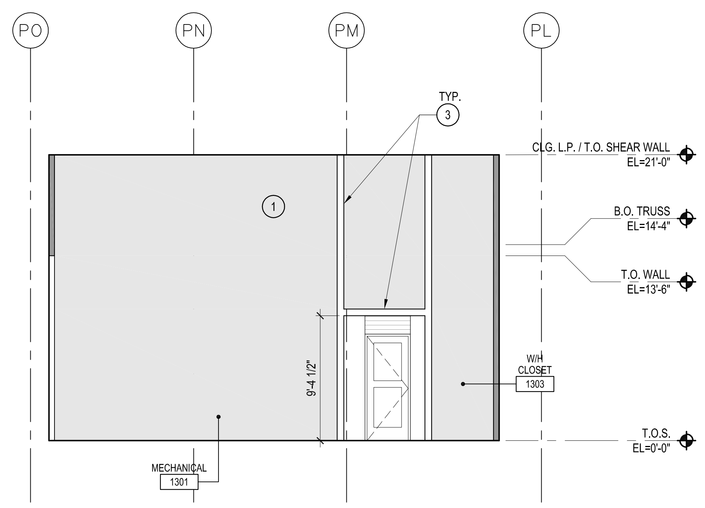

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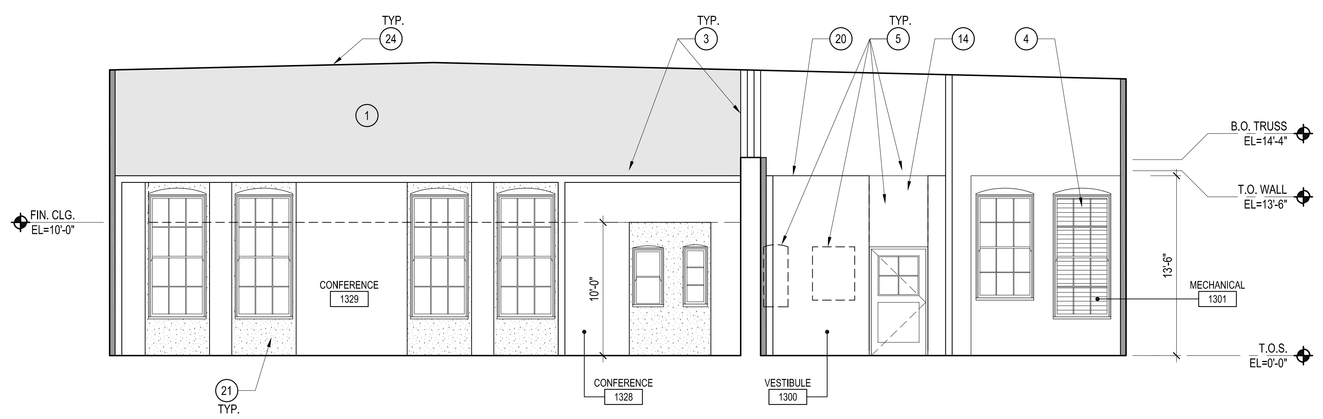

WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **01**

KEY NOTES

1. SHOTCRETE OVERLAY TO (E) WALL. SEE STRUCTURAL DRAWINGS.
2. PAINTED BUCKLING RESTRAINED BRACES WITH GUSSETS. SEE STRUCTURAL DRAWINGS.
3. METAL STUD WALL PER PLAN.
4. PAINTED AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM EXISTING WALL FACE.
6. INFILL (E) WALL OPENING WITH METAL STUD WALL.
7. (E) BRICK WALL TO REMAIN. PROTECT IN PLACE.
8. ROOF DRAIN LEADER. UTILIZE (E) WALL OPENING. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
9. PAINTED WOOD DOOR TRIM TO MATCH EXISTING.
10. (E) DOOR AND HARDWARE TO REMAIN. PROTECT IN PLACE.
11. REVEALS IN SHOTCRETE OVERLAY AT EXPOSED (E) STEEL COLUMNS.
12. WALL OPENING FOR DAY TANK VENTING. SEE FUEL OIL DRAWINGS. REMOVE FULL BRICKS TO CREATE OPENING. PROVIDE FLASHING AND WATERPROOFING AT NEW OPENINGS AS REQUIRED TO MAINTAIN WATERPROOFING OF THE BUILDING.
13. ROOF DRAIN LEADER. RELOCATE WALL OPENING AND PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
14. (E) WALL OPENING TO REMAIN.
15. DEPRESSED SLAB.
16. EXPOSED CONCRETE CURB
17. ACOUSTICAL BOARD OVER SHOTCRETE WALL.
18. CERAMIC TILE WAINSCOAT.
19. ONE-HOUR RATED CEILING ASSEMBLY. FILL ALL PENETRATION AND SLEEVE AROUND PIPES WITH UL-APPROVED MATERIAL PER 19/A12.00. SEE PARTITION TYPE 15 IN A12.03.
20. GYP. BD. CEILING, PAINTED SUPPORTED WITH METAL CHANNELS ABV, PER 1 & 4/A12.01.
21. SMOOTH PLASTER FINISH PAINTED OVER EXISTING BRICK.
22. CUSTOM SLIDING METAL DOOR AND FRAME TO MATCH EXISTING. PROVIDE DESIGN/BUILD DOOR FOR REVIEW PRIOR TO FABRICATION.
23. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGED PIECES TO MATCH EXISTING.
24. CEILING PER CEILING PLAN.
25. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.

LEGEND

- SHOTCRETE OVERLAY TO EXISTING WALLS.
- EXISTING BRICK WALL TO REMAIN.

SHEET NOTES

1. REPLACE DAMAGED OR MISSING BRICK AT EXPOSED LOCATIONS. NEW MATERIAL TO MATCH EXISTING.
2. PATCH AND REPAIR CONCRETE SILLS AS REQUIRED.
3. ALL NEW AND EXISTING EXPOSED STEEL TO BE PAINTED.
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6. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWINGS CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.

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Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A11-09.dwg

Description
INTERIOR ELEVATIONS - POWER BUILDING

Scale
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A11.09

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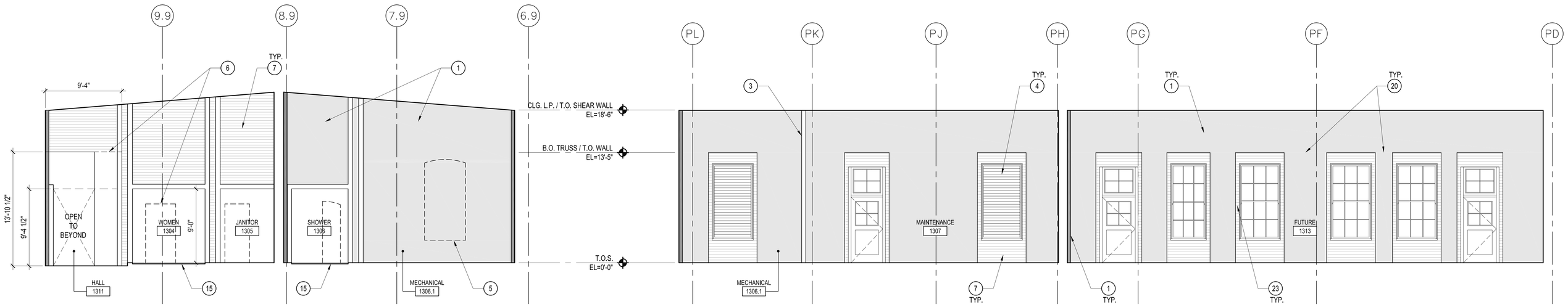

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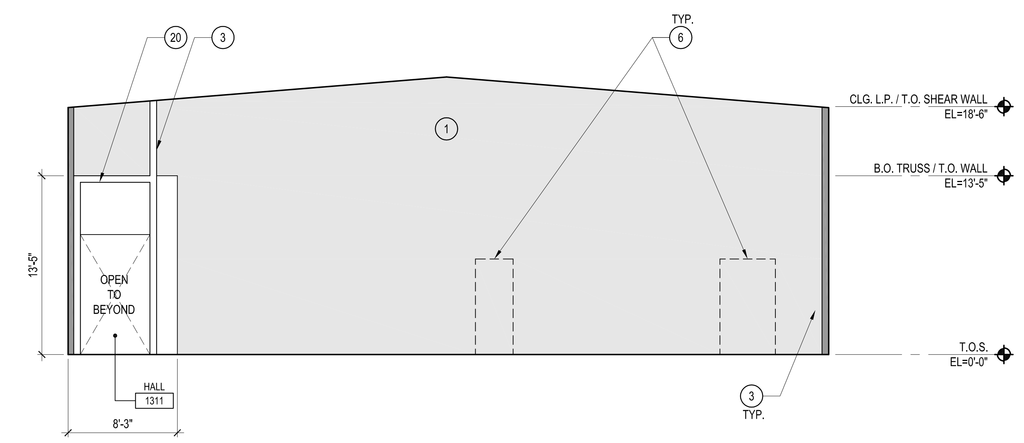

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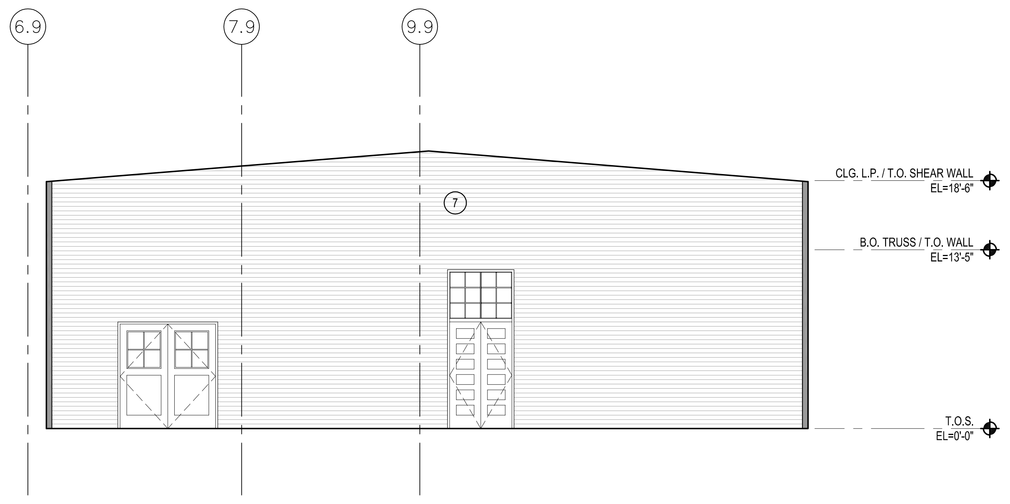

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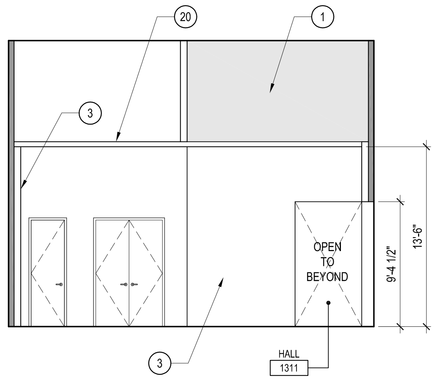

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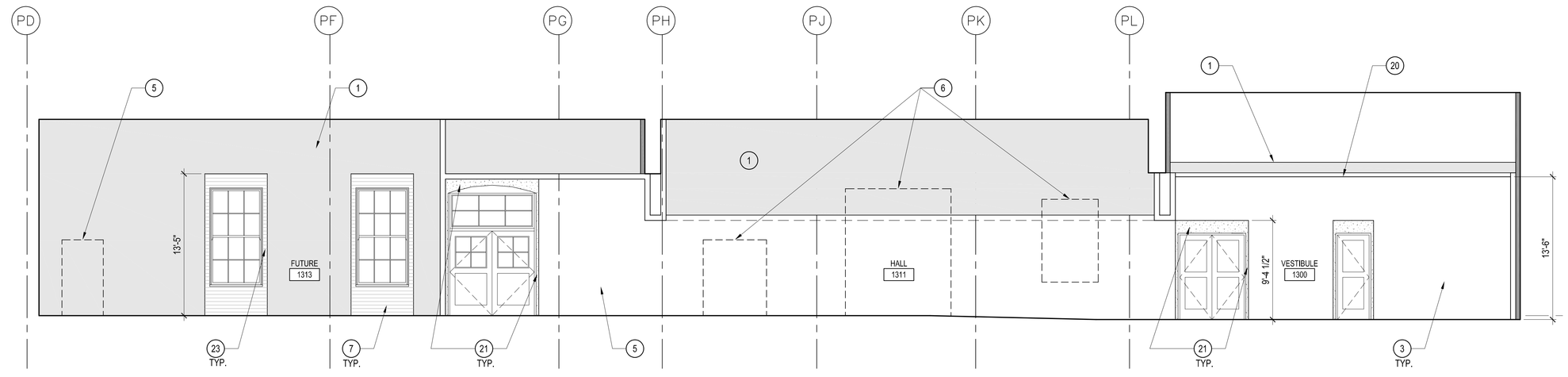

WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **01**

KEY NOTES

1. SHOTCRETE OVERLAY TO (E) WALL. SEE STRUCTURAL DRAWINGS.
2. PAINTED BUCKLING RESTRAINED BRACES WITH GUSSETS. SEE STRUCTURAL DRAWINGS.
3. METAL STUD WALL PER PLAN.
4. PAINTED AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM EXISTING WALL FACE.
6. INFILL (E) WALL OPENING WITH METAL STUD WALL.
7. (E) BRICK WALL TO REMAIN. PROTECT IN PLACE.
8. ROOF DRAIN LEADER. UTILIZE (E) WALL OPENING. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
9. PAINTED WOOD DOOR TRIM TO MATCH EXISTING.
10. (E) DOOR AND HARDWARE TO REMAIN. PROTECT IN PLACE.
11. REVEALS IN SHOTCRETE OVERLAY AT EXPOSED (E) STEEL COLUMNS.
12. WALL OPENING FOR DAY TANK VENTING. SEE FUEL OIL DRAWINGS. REMOVE FULL BRICKS TO CREATE OPENING. PROVIDE FLASHING AND WATERPROOFING AT NEW OPENINGS AS REQUIRED TO MAINTAIN WATERPROOFING OF THE BUILDING.
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15. DEPRESSED SLAB.
16. EXPOSED CONCRETE CURB
17. ACOUSTICAL BOARD OVER SHOTCRETE WALL.
18. CERAMIC TILE WAINSCOAT.
19. ONE-HOUR RATED CEILING ASSEMBLY. FILL ALL PENETRATION AND SLEEVE AROUND PIPES WITH UL-APPROVED MATERIAL PER 19/A12.00. SEE PARTITION TYPE 15 IN A12.03.
20. GYP. BD. CEILING, PAINTED SUPPORTED WITH METAL CHANNELS ABV. PER 1 & 4/A12.01.
21. SMOOTH PLASTER FINISH PAINTED OVER EXISTING BRICK.
22. CUSTOM SLIDING METAL DOOR AND FRAME TO MATCH EXISTING. PROVIDE DESIGN/BUILD DOOR FOR REVIEW PRIOR TO FABRICATION.
23. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGED PIECES TO MATCH EXISTING.
24. CEILING PER CEILING PLAN.
25. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.

LEGEND

- SHOTCRETE OVERLAY TO EXISTING WALLS.
- EXISTING BRICK WALL TO REMAIN.

SHEET NOTES

1. REPLACE DAMAGED OR MISSING BRICK AT EXPOSED LOCATIONS. NEW MATERIAL TO MATCH EXISTING.
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Description
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A11.10

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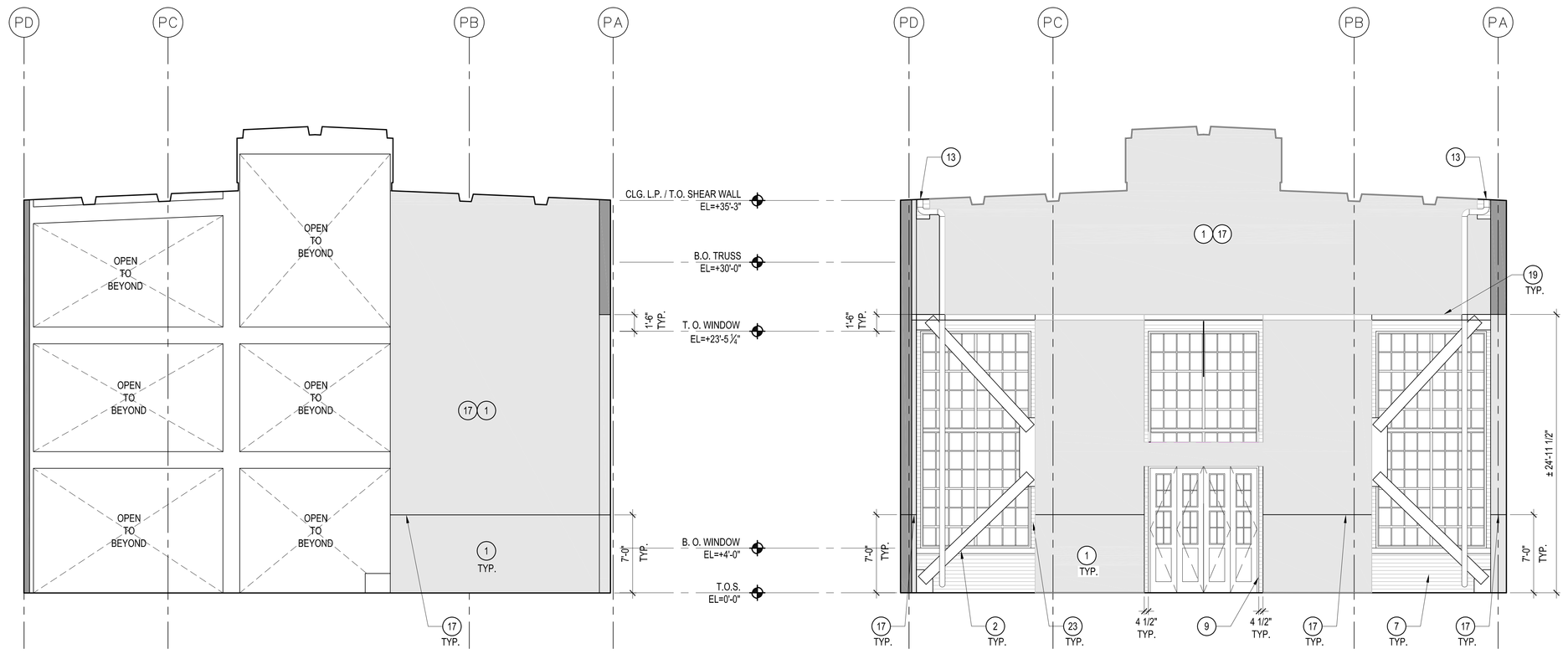

WALL ELEVATION
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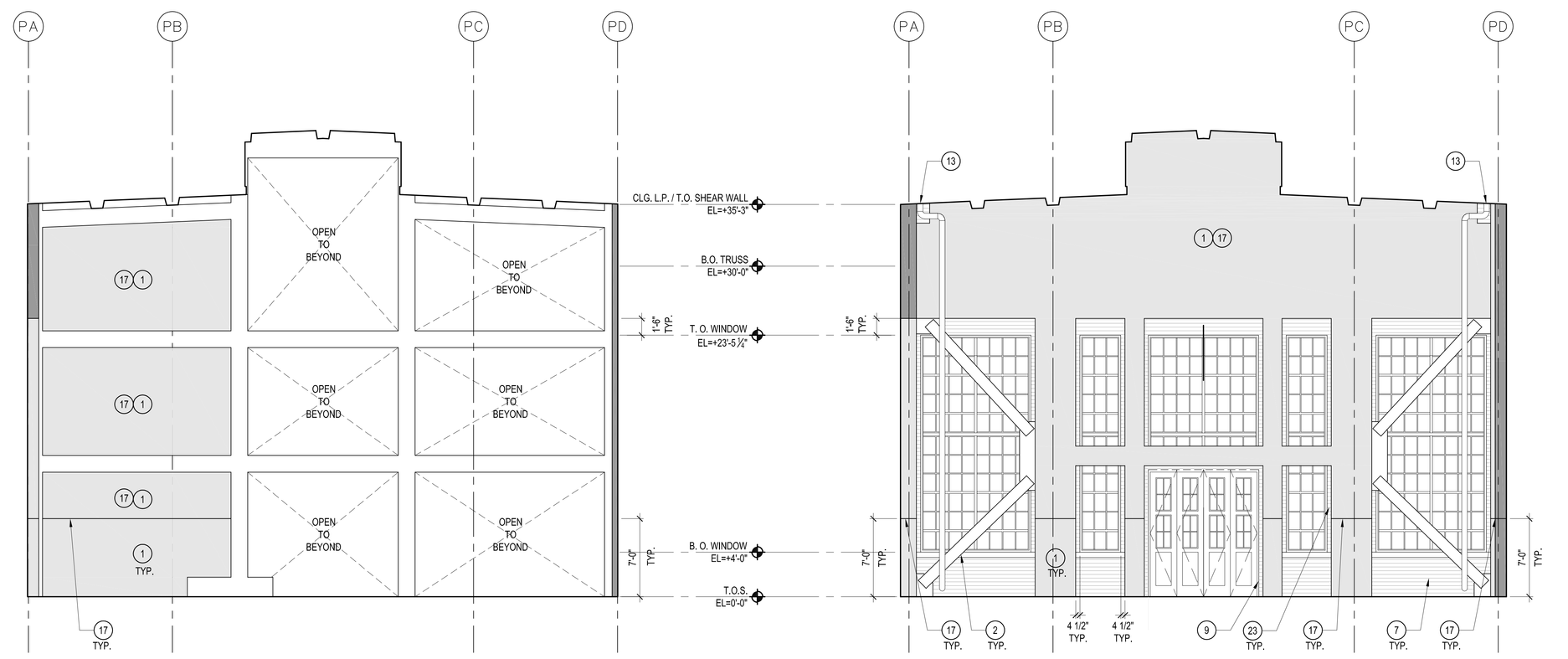
WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **02**



WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **03**

WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **01**

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LEGEND

- SHOTCRETE OVERLAY TO EXISTING WALLS.
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GENERAL NOTES

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Description
INTERIOR ELEVATIONS - POWER BUILDING

Scale
3/16"=1'-0"

A11.07

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Appendix C: **Sharon Park, FAIA, Preservation Briefs No. 31, Mothballing Historic Buildings** 29

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historicla.com

Some of the web versions of the Preservation Briefs differ somewhat from the printed versions. Many illustrations are new and in color; Captions are simplified and some complex charts are omitted. To order hard copies of the Briefs, see Printed Publications.

PRESERVATION BRIEFS

31

Mothballing Historic Buildings

Sharon C. Park, AIA

Documentation

Stabilization

Mothballing

Mothballing Checklist

Maintenance Chart

Summary and References

Reading List

Download the PDF

Appropriately mothballed historic building. Photo: NPS files.

When all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism. This process, known as mothballing, can be a necessary and effective means of protecting the building while planning the property's future, or raising money for a preservation, rehabilitation or restoration project. If a vacant property has been declared unsafe by building officials, stabilization and mothballing may be the only way to protect it from demolition.

This building has been successfully mothballed for 10 years because the roof and walls were repaired and structurally stabilized, ventilation louvers added, and the property maintained. Photo: NPS files.

This Preservation Brief focuses on the steps needed to "de-activate" a property for an extended period of time. The project team will usually consist of an architect, historian, preservation specialist, sometimes a structural engineer, and a contractor. Mothballing should not be done without careful planning to ensure that needed physical repairs are made prior to securing the building. The steps discussed in this Brief can protect buildings for periods of up to ten years; long-term success will also depend on continued, although somewhat limited, monitoring and maintenance. For all but the simplest projects, hiring a team of preservation specialists is recommended to assess the specific needs of the structure and to develop an effective mothballing program.

A vacant historic building cannot survive indefinitely in a boarded-up condition, and so even marginal interim uses where there is regular activity and monitoring, such as a caretaker residence or non-flammable storage, are generally preferable to mothballing. In a few limited cases when the vacant building is in good condition and in a location where it can be watched and checked regularly, closing and locking the door, setting heat levels at just above freezing, and securing the windows may provide sufficient protection for a period of a few years.

But if long-term mothballing is the only remaining option, it must be done properly. This will require stabilization of the exterior, properly designed security protection, generally some form of interior ventilation—either through mechanical or natural air exchange systems—and continued maintenance and surveillance monitoring.

Boarding up without adequate ventilation and maintenance has accelerated deterioration of this property. Photo: NPS files.

Comprehensive mothballing programs are generally expensive and may cost 10% or more of a modest rehabilitation budget. However, the money spent on well-planned protective measures will seem small when amortized over the life of the resource. Regardless of the location and condition of the property or the funding available, the following 9 steps are involved in properly mothballing a building:

Documentation

1. Document the architectural and historical significance of the building.
2. Prepare a condition assessment of the building.

Stabilization

3. Structurally stabilize the building, based on a professional condition assessment.
4. Exterminate or control pests, including termites and rodents.
5. Protect the exterior from moisture penetration.

Mothballing

6. Secure the building and its component features to reduce vandalism or break-ins.
7. Provide adequate ventilation to the interior.
8. Secure or modify utilities and mechanical systems.
9. Develop and implement a maintenance and monitoring plan for protection.

These steps will be discussed in sequence below. Documentation and stabilization are critical components of the process and should not be skipped over. Mothballing measures should not result in permanent damage, and so each treatment should be weighed in terms of its reversibility and its overall benefit.

Documentation

Documenting the historical significance and physical condition of the property will provide information necessary for setting priorities and allocating funds. The project team should be cautious when first entering the structure if it has been vacant or is deteriorated. It may be advisable to shore temporarily areas appearing to be structurally unsound until the condition of the structure can be fully assessed. If pigeon or bat droppings, friable asbestos or other health hazards are present, precautions must be taken to wear the appropriate safety equipment when first inspecting the building. Consideration should be given to hiring a firm specializing in hazardous waste removal if these highly toxic elements are found in the building.

Documenting and Recording the Building

Documenting a building's history is important because evidence of its true age and architectural significance may not be readily evident. The owner should check with the State Historic Preservation Office or local preservation commission for assistance in researching the building. If the building has never been researched for listing in the National Register of Historic Places or other historic registers, then, *at a minimum*, the following should be determined:

- The overall historical significance of the property and dates of construction;
- The chronology of alterations or additions and their approximate dates; and,
- Types of building materials, construction techniques, and any unusual detailing or regional variations of craftsmanship.

Old photographs can be helpful in identifying early or original features that might be hidden under modern materials. On a walk-through, the architect, historian, or preservation specialist should identify the architecturally significant elements of the building, both inside and out.

By understanding the history of the resource, significant elements, even though deteriorated, may be spared the trash pile. For that reason alone, any materials removed from the building or site as part of the stabilization effort should be carefully scrutinized and, if appearing historic, should be photographed, tagged with a number, inventoried, and safely stored, preferably in the building, for later retrieval.

Documenting a building's history and assessing its condition provide information to set priorities for stabilization and repair, prior to mothballing. Photo: NPS files.

A site plan and schematic building floor plans can be used to note important information for use when the building is eventually preserved, restored, or rehabilitated. Each room should be given a number and notations added to the plans regarding the removal of important features to storage or recording physical treatments undertaken as part of the stabilization or repair.

Because a mothballing project may extend over a long period of time, with many different people involved, clear records should be kept and a building file established. Copies of all important data, plans, photographs, and lists of consultants or contractors who have worked on the property should be added to the file as the job progresses. Recording actions taken on the building and identifying where elements that have been removed are stored will be helpful in the future.

The project coordinator should keep the building file updated and give duplicate copies to the owner. A list of emergency numbers, including the number of the key holder, should be kept at the entrance to the building or on a security gate, in a transparent vinyl sleeve.

Preparing a Condition Assessment of the Building

A condition assessment can provide the owner with an accurate overview of the current condition of the property. If the building is deteriorated or if there are significant interior architectural elements that will need special protection during the mothballing years, undertaking a condition assessment is highly recommended, but it need not be exhaustive.

A modified condition assessment, prepared by an architect or preservation specialist, and in some case a structural engineer, will help set priorities for repairs necessary to stabilize the property for both the short and long-term. It will evaluate the age and condition of the following major elements: foundations; structural systems; exterior materials; roofs and gutters; exterior porches and steps; interior finishes; staircases; plumbing, electrical, mechanical systems; special features such as chimneys; and site drainage.

To record existing conditions of the building and site, it will be necessary to clean debris from the building and to remove unwanted or overgrown vegetation to expose foundations. The interior should be emptied of its furnishing (unless provisions are made for mothballing these as well), all debris removed, and the interior swept with a broom. Building materials too deteriorated to repair, or which have come detached, such as moldings, balusters, and decorative plaster, and which can be used to guide later preservation work, should be tagged, labeled and saved.

Buildings seriously damaged by storms or deterioration may need to be braced before architectural evaluations can be made. Photo: John Milner Architects. Photo: NPS files

Photographs or a videotape of the exterior and all interior spaces of the resource will provide an invaluable record of "as is" conditions. If a videotape is made, oral commentary can be provided on the significance of each space and architectural feature. If 35mm photographic prints or slides are made, they should be numbered, dated, and appropriately identified. Photographs should be cross-referenced with the room numbers on the schematic plans. A systematic method for photographing should be developed; for example, photograph each wall in a room and then take a corner shot to get floor and ceiling portions in the picture. Photograph any unusual details as well as examples of each window and door type.

For historic buildings, the great advantage of a condition assessment is that architectural features, both on the exterior as well as the interior, can be rated on a scale of their importance to the integrity and significance of the building. Those features of the highest priority should receive preference when repairs or protection measures are outlined as part of the mothballing process. Potential problems with protecting these features should be identified so that appropriate interim solutions can be selected. For example, if a building has always been heated and if murals, decorative plaster walls, or examples of patterned wall paper are identified as highly significant, then special care should be taken to regulate the interior climate and to monitor it adequately during the mothballing years. This might require retaining electrical service to provide minimal heat in winter, fan exhaust in summer, and humidity controls for the interior.

Loose or detached elements should be identified, tagged and stored, preferably on site. Photo: NPS files

Stabilization

Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or

reinforced; insects and other pests removed and discouraged from returning; and the building protected from moisture damage both by weatherizing the exterior envelope and by handling water run-off on the site. Even if a modified use or caretaker services can eventually be found for the building, the following steps should be addressed.

Structurally Stabilizing the Building

While bracing may have been required to make the building temporarily safe for inspection, the condition assessment may reveal areas of hidden structural damage. Roofs, foundations, walls, interior framing, porches and dormers all have structural components that may need added reinforcement.

Interior bracing which will last the duration of the mothballing will protect weakened structural members. Photo: John Milner Architects.

Structural stabilization by a qualified contractor should be done under the direction of a structural engineer or a preservation specialist to ensure that the added weight of the reinforcement can be sustained by the building and that the new members do not harm historic finishes. Any major vertical post added during the stabilization should be properly supported and, if necessary, taken to the ground and underpinned.

If the building is in a northern climate, then the roof framing must be able to hold substantial snow loads. Bracing the roof at the ridge and mid-points should be considered if sagging is apparent. Likewise, interior framing around stair openings or under long ceiling spans should be investigated. Underpinning or bracing structural piers weakened by poor drainage patterns may be a good precaution as well. Damage caused by insects, moisture, or from other causes should be repaired or reinforced and, if possible, the source of the damage removed. If features such as porches and dormers are so severely deteriorated that they must be removed, they should be documented, photographed, and portions salvaged for storage prior to removal.

If the building is in a southern or humid climate and termites or other insects are a particular problem, the foundation and floor framing should be inspected to ensure that there are no major structural weaknesses. This can usually be done by observation from the crawl space or basement. For those structures where this is not possible, it may be advisable to lift selective floor boards to expose the floor framing. If there is evidence of pest damage, particularly termites, active colonies should be treated and the structural members reinforced or replaced, if necessary.

Controlling Pests

Pests can be numerous and include squirrels, raccoons, bats, mice, rats, snakes, termites, moths, beetles, ants, bees and wasps, pigeons, and other birds. Termites, beetles, and carpenter ants destroy wood. Mice, too, gnaw wood as well as plaster, insulation, and electrical wires. Pigeon and bat droppings not only damage wood finishes but create a serious and sometimes deadly health hazard.

If the property is infested with animals or insects, it is important to get them out and to seal off their access to the building. If necessary, exterminate and remove any nests or hatching colonies. Chimney flues may be closed off with exterior grade plywood caps, properly ventilated, or protected with framed wire screens. Existing vents, grills, and louvers in attics and crawl spaces should be screened with bug mesh or heavy duty wire, depending on the type of pest being controlled. It may be advantageous to have damp or infected wood treated with insecticides (as permitted by each state) or preservatives, such as borate, to slow the rate of deterioration during the time that the building is not in use.

Securing the Exterior Envelope from Moisture Penetration

It is important to protect the exterior envelope from moisture penetration before securing the building. Leaks from deteriorated or damaged roofing, from around windows and doors, or through deteriorated materials, as well as ground moisture from improper site run-off or rising damp at foundations, can cause long-term damage to interior finishes and structural systems. Any serious deficiencies on the exterior, identified in the condition assessment, should be addressed.

Regrading has protected this masonry foundation wall from excessive damp during its 10-year mothballing. Note the attic and basement vents, temporary stairs, and interpretive sign. Photo: NPS files.

To the greatest extent possible, these weatherization efforts should not harm historic materials. The project budget may not allow deteriorated features to be fully repaired or replaced in-kind. Non-historic or modern materials may be used to cover historic surfaces temporarily, but these treatments should not destroy valuable evidence necessary for future preservation work. Temporary modifications should be as visually compatible as possible with the historic building.

Roofs are often the most vulnerable elements on the building exterior and yet in some ways they are the easiest element to stabilize for the long term, if done correctly. "Quick fix" solutions, such as tar patches on slate roofs, should be avoided as they will generally fail within a year or so and may accelerate damage by trapping moisture. They are difficult to undo later

when more permanent repairs are undertaken. Use of a tarpaulin over a leaking roof should be thought of only as a very temporary emergency repair because it is often blown off by the wind in a subsequent storm.

If the existing historic roof needs moderate repairs to make it last an additional ten years, then these repairs should be undertaken as a first priority. Replacing cracked or missing shingles and tiles, securing loose flashing, and reanchoring gutters and downspouts can often be done by a local roofing contractor. If the roof is in poor condition, but the historic materials and configuration are important, a new temporary roof, such as a lightweight aluminum channel system over the existing, might be considered. If the roofing is so deteriorated that it must be replaced and a lightweight aluminum system is not affordable, various inexpensive options might be considered. These include covering the existing deteriorated roof with galvanized corrugated metal roofing panels, or 90 lb. rolled roofing, or a rubberized membrane (refer back to cover photo). These alternatives should leave as much of the historic sheathing and roofing in place as evidence for later preservation treatments.

Urban buildings often need additional protection from unwanted entry and graffiti. This commercial building uses painted plywood panels to cover its glass storefronts. The upper windows on the street sides have been painted to resemble 19th century sash. Photo: NPS files.

For masonry repairs, appropriate preservation approaches are essential. For example, if repointing deteriorated brick chimneys or walls is necessary to prevent serious moisture penetration while the building is mothballed, the mortar should match the historic mortar in composition, color, and tooling. The use of hard portland cement mortars or vapor-impermeable waterproof coatings are not appropriate solutions as they can cause extensive damage and are not reversible treatments.

For wood siding that is deteriorated, repairs necessary to keep out moisture should be made; repainting is generally warranted. Cracks around windows and doors can be beneficial in providing ventilation to the interior and so should only be caulked if needed to keep out bugs and moisture. For very deteriorated wall surfaces on wooden frame structures, it may be necessary to sheathe in plywood panels, but care should be taken to minimize installation damage by planning the location of the nailing or screw patterns or by installing panels over a frame of battens. Generally, however, it is better to repair deteriorated features than to cover them over.

Foundation damage may occur if water does not drain away from the building. Run-off from gutters and downspouts should be directed far away from the foundation wall by using long flexible extender pipes equal in length to twice the depth of the basement or crawl space. If underground drains are susceptible to clogging, it is recommended that the downspouts be disconnected from the drain boot and attached to flexible piping. If gutters and downspouts are in bad condition, replace them with inexpensive aluminum units.

If there are no significant landscape or exposed archeological elements around the foundation, consideration should be given to regrading the site if there is a documented drainage problem. If building up the grade, use a fiber mesh membrane to separate the new soil from the old and slope the new soil 6 to 8 feet (200 cm-266 cm) away from the foundation making sure not to cover up the dampcourse layer or come into contact with skirting boards. To keep vegetation under control, put down a layer of 6 mil black polyethylene sheeting or fiber mesh matting covered with a 2"-4" (5-10 cm.) of washed gravel. If the building suffers a serious rising damp problem, it may be advisable to eliminate the plastic sheeting to avoid trapping ground moisture against foundations.

Mothballing

The actual mothballing effort involves controlling the long-term deterioration of the building while it is unoccupied as well as finding methods to protect it from sudden loss by fire or vandalism. This requires securing the building from unwanted entry, providing adequate ventilation to the interior, and shutting down or modifying existing utilities. Once the building is de-activated or secured, the long-term success will depend on periodic maintenance and surveillance monitoring.

Securing the Building from Vandals, Break-ins, and Natural Disasters

Securing the building from sudden loss is a critical aspect of mothballing. Because historic buildings are irreplaceable, it is vital that vulnerable entry points are sealed. If the building is located where fire and security service is available then it is highly recommended that some form of monitoring or alarm devices be used.

To protect decorative features, such as mantels, lighting fixtures, copper downspouts, iron roof cresting, or stained glass windows from theft or vandalism, it may be advisable to temporarily remove them to a more secure location if they cannot be adequately protected within the structure.

Mothballed buildings are usually boarded up, particularly on the first floor and basement, to protect fragile glass windows from breaking and to reinforce entry points. Infill materials for closing door and window openings include plywood, corrugated panels, metal grates, chain fencing, metal grills, and cinder or cement blocks. The method of installation should not result in the destruction of the opening and all associated sash, doors, and frames should be protected or stored for future reuse.

The first floor openings of this historic building have been filled with cinder blocks and the doors, window sash, and frames removed for safe keeping. The security metal door features heavy duty locks. Photo: NPS files.

Generally exterior doors are reinforced and provided with strong locks, but if weak historic doors would be damaged or disfigured by adding reinforcement or new locks, they may be removed temporarily and replaced with secure modern doors. Alternatively, security gates in an new metal frame can be installed within existing door openings, much like a storm door, leaving the historic door in place. If plywood panels are installed over door openings, they should be screwed in place, as opposed to nailed, to avoid crowbar damage each time the panel is removed. This also reduces pounding vibrations from hammers and eliminates new nail holes each time the panel is replaced.

For windows, the most common security feature is the closure of the openings; this may be achieved with wooden or pre-formed panels or, as needed, with metal sheets or concrete blocks. Plywood panels, properly installed to protect wooden frames and properly ventilated, are the preferred treatment from a preservation standpoint.

This painted trompe l'eoil scene on plywood panels is a neighborhood-friendly device. Photo: NPS files.

There are a number of ways to set insert plywood panels into windows openings to avoid damage to frame and sash. One common method is to bring the upper and lower sash of a double hung unit to the mid-point of the opening and then to install pre-cut plywood panels using long carriage bolts anchored into horizontal wooden bracing, or strong backs, on the inside face of the window. Another means is to build new wooden blocking frames set into deeply recessed openings, for example in an industrial mill or warehouse, and then to affix the plywood panel to the blocking frame. If sash must be removed prior to installing panels, they should be labeled and stored safely within the building.

Plywood panels are usually 1/2"-3/4" (1.25-1.875 cm.) thick and made of exterior grade stock, such as CDX, or marine grade plywood. They should be painted to protect them from delamination and to provide a neater appearance. These panels may be painted to resemble operable windows or treated decoratively. With extra attention to detail, the plywood panels can be trimmed out with muntin strips to give a shadow line simulating multi-lite windows. This level of detail is a good indication that the building is protected and valued by the community.

If the building has shutters simply close the shutters and secure them from the interior. If the building had shutters historically, but they are missing, it may be appropriate to install new shutters, even in a modern material, and secure them in the closed position. Louvered shutters will help with interior ventilation if the sash are propped open behind the shutters.

There is some benefit from keeping windows unboarded if security is not a problem. The building will appear to be occupied, and the natural air leakage around the windows will assist in ventilating the interior. The presence of natural light will also help when periodic inspections are made. Rigid polycarbonate clear storm glazing panels may be placed on the window exterior to protect against glass breakage. Because the sun's ultraviolet rays can cause fading of floor finishes and wall surfaces, filtering pull shades or inexpensive curtains may be options for reducing this type of deterioration for significant interiors. Some acrylic sheeting comes with built-in ultraviolet filters.

A view showing the exterior of the Brearley House, New Jersey, in its mothballed condition Photo: Michael Mills, Ford Farewell Mills Gatsch, Architects.

Securing the building from catastrophic destruction from fire, lightning, or arson will require additional security devices. Lightning rods properly grounded should be a first consideration if the building is in an area susceptible to lightning storms. A high security fence should also be installed if the property cannot be monitored closely. These interventions do not require a power source for operation. Since many buildings will not maintain electrical power, there are some devices available using battery packs, such as intrusion alarms, security lighting, and smoke detectors which through audible horn alarms can alert nearby neighbors. These battery packs must be replaced every 3 months to 2 years, depending on type and use. In combination with a cellular phone, they can also provide some level of direct communication with police and fire departments.

If at all possible, new temporary electric service should be provided to the building. Generally a telephone line is needed as well. A hard wired security system for intrusion and a combination rate-of-rise and smoke detector can send an immediate signal for help directly to the fire department and security service. Depending on whether or not heat will be maintained in the building, the security system should be designed accordingly. Some systems cannot work below 32∞F (0∞C). Exterior lighting set on a timer, photo electric sensor, or a motion/infra-red detection device provides additional security.

Providing Adequate Ventilation to the Interior

Once the exterior has been made weathertight and secure, it is essential to provide adequate air exchange throughout the building. Without adequate air exchange, humidity may rise to unsafe levels, and mold, rot, and insect infestation are likely to thrive. The needs of each historic resource must be individually evaluated because there are so many variables that affect the performance of each interior space once the building has been secured.

A mechanical engineer or a specialist in interior climates should be consulted, particularly for buildings with intact and significant interiors. In some circumstances, providing heat during the winter, even at a minimal 45∞ F (7∞C), and utilizing forced-fan ventilation in summer will be recommended and will require retaining electrical service. For masonry buildings it is often helpful to keep the interior temperature above the spring dew point to avoid damaging condensation. In most buildings it is the need for summer ventilation that outweighs the winter requirements.

This exhaust fan has tamper-proof housing. Photo: Michael Mills, Ford Farewell Mills Gatsch, Architects.

Many old buildings are inherently leaky due to loose-fitting windows and floorboards and the lack of insulation. The level of air exchange needed for each building, however, will vary according to geographic location, the building's construction, and its general size and configuration.

There are four critical climate zones when looking at the type and amount of interior ventilation needed for a closed up building: hot and dry (southwestern states); cold and damp (Pacific northwest and northeastern states); temperate and humid (Mid-Atlantic states, coastal areas); and hot and humid (southern states and the tropics).

Once closed up, a building interior will still be affected by the temperature and humidity of the exterior. Without proper ventilation, moisture from condensation may occur and cause damage by wetting plaster, peeling paint, staining woodwork, warping floors, and in some cases even causing freeze thaw damage to plaster. If moist conditions persist in a property, structural damage can result from rot or returning insects attracted to moist conditions. Poorly mothballed masonry buildings, particularly in damp and humid zones have been so damaged on the interior with just one year of unventilated closure that none of the interior finishes were salvageable when the buildings were rehabilitated.

The absolute minimum air exchange for most mothballed buildings consists of one to four air exchanges every hour; one or two air exchanges per hour in winter and twice that amount in summer. Even this minimal exchange may foster mold and mildew in damp climates, and so monitoring the property during the stabilization period and after the building has been secured will provide useful information on the effectiveness of the ventilation solution.

Portable monitors are used to record temperature and humidity conditions in historic buildings during mothballing. Photo: NPS files.

There is no exact science for how much ventilation should be provided for each building. There are, however, some general rules of thumb. Buildings, such as adobe structures, located in hot and arid climates may need no additional ventilation if they have been well weatherized and no moisture is penetrating the interior. Also frame buildings with natural cracks and fissures for air infiltration may have a natural air exchange rate of 3 or 4 per hour, and so in arid as well as temperate climates may need no additional ventilation once secured. The most difficult buildings to adequately ventilate without resorting to extensive louvering and/or mechanical exhaust fan systems are masonry buildings in humid climates. Even with basement and attic vent grills, a masonry building many not have more than one air exchange an hour. This is generally unacceptable for summer conditions. For these buildings, almost every window opening will need to be fitted out with some type of passive, louvered ventilation.

Depending on the size, plan configuration, and ceiling heights of a building, it is often necessary to have louvered opening equivalent to 5%-10% of the square footage of each floor. For example, in a hot humid climate, a typical 20'x30' (6.1m x 9.1m) brick residence with 600 sq. ft.(55.5 sq.m) of floor space and a typical number of windows, may need 30-60 sq. ft. (2.75sq.m-5.5 sq. m) of louvered openings per floor. With each window measuring 3'x5'(.9m x 1.5 m) or 15 sq. ft. (1.3 sq.m), the equivalent of 2 to 4 windows per floor will need full window louvers.

Small pre-formed louvers set into a plywood panel or small slit-type registers at the base of inset panels generally cannot provide enough ventilation in most moist climates to offset condensation, but this approach is certainly better than no louvers at all. Louvers should be located to give cross ventilation, interior doors should be fixed ajar at least 4" (10cm) to allow air to circulate, and hatches to the attic should be left open.

Monitoring devices which can record internal temperature and humidity levels can be invaluable in determining if the internal climate is remaining stable. These units can be powered by portable battery packs or can be wired into electric service with data downloaded into laptop computers periodically. This can also give long-term information throughout the mothballing years. If it is determined that there are inadequate air exchanges to keep interior moisture levels under control, additional passive ventilation can be increased, or, if there is electric service, mechanical exhaust fans can be installed. One fan in a small to medium sized building can reduce the amount of louvering substantially.

If electric fans are used, study the environmental conditions of each property and determine if the fans should be controlled by thermostats or automatic timers. Humidistats, designed for enclosed climate control systems, generally are difficult to adapt for open mothballing conditions. How the system will draw in or exhaust air is also important. It may be determined that it is best to bring dry air in from the attic or upper levels and force it out through lower basement windows. If the basement is damp, it may be best to zone it from the rest of the building and exhaust its air separately. Additionally, less humid day air is preferred over damper night air, and this can be controlled with a timer switch mounted to the fan.

The type of ventilation should not undermine the security of the building. The most secure installations use custom-made grills well anchored to the window frame, often set in plywood security panels. Some vents are formed using heavy millwork louvers set into existing window openings. For buildings where security is not a primary issue, where the interior is modest, and where there has been no heat for a long time, it may be possible to use lightweight galvanized metal grills in the window openings. A cost effective grill can be made from the expanded metal mesh lath used by plasterers and installed so that the mesh fins shed rainwater to the exterior.

Securing Mechanical Systems and Utilities

At the outset, it is important to determine which utilities and services, such as electrical or telephone lines, are kept and which are cut off. As long as these services will not constitute a fire hazard, it is advisable to retain those which will help protect the property. Since the electrical needs will be limited in a vacant building, it is best to install a new temporary electric line and panel (100 amp) so that all the wiring is new and exposed. This will be much safer for the building, and allows easy access for reading the meter.

Most heating systems are shut down in long term mothballing. For furnaces fueled by oil, there are two choices for dealing with the tank. Either it must be filled to the top with oil to eliminate condensation or it should be drained. If it remains empty for more than a year, it will likely rust and not be reusable. Most tanks are drained if a newer type of system is envisioned when the building is put back into service. Gas systems with open flames should be turned off unless there is regular maintenance and frequent surveillance of the property. Gas lines are shut off by the utility company.

If a hot water radiator system is retained for low levels of heat, it generally must be modified to be a self-contained system and the water supply is capped at the meter. This recirculating system protects the property from extensive damage from burst pipes. Water is replaced with a water/glycol mix and the reserve tank must also be filled with this mixture. This keeps the modified system from freezing, if there is a power failure. If water service is cut off, pipes should be drained. Sewerage systems will require special care as sewer gas is explosive. Either the traps must be filled with glycol or the sewer line should be capped off at the building line.

Developing a Maintenance and Monitoring Plan

While every effort may have been made to stabilize the property and to slow the deterioration of materials, natural disasters, storms, undetected leaks, and unwanted intrusion can still occur. A regular schedule for surveillance, maintenance, and monitoring should be established. The fire and police departments should be notified that the property will be vacant. A walk-through visit to familiarize these officials with the building's location, construction materials, and overall plan may be invaluable if they are called on in the future.

The optimum schedule for surveillance visits to the property will depend on the location of the property and the number of people who can assist with these activities. The more frequent the visits to check the property, the sooner that water leaks or break-ins will be noticed. Also, the more frequently the building is entered, the better the air exchange. By keeping the site clear and the building in good repair, the community will know that the building has not been abandoned. The involvement of neighbors and community groups in caring for the property can ensure its protection from a variety of catastrophic circumstances.

The owner may utilize volunteers and service companies to undertake the work outlined in the maintenance chart. Service companies on a maintenance contract can provide yard, maintenance, and inspection services, and their reports or itemized

bills reflecting work undertaken should be added to update the building file.

Mothballing Checklist

In reviewing mothballing plans, the following checklist may help to ensure that work items are not inadvertently omitted.

Moisture

- Is the roof watertight?
- Do the gutters retain their proper pitch and are they clean?
- Are downspout joints intact?
- Are drains unobstructed?
- Are windows and doors and their frames in good condition?
- Are masonry walls in good condition to seal out moisture?
- Is wood siding in good condition?
- Is site properly graded for water run-off?
- Is vegetation cleared from around the building foundation to avoid trapping moisture?

Pests

- Have nests/pests been removed from the building's interior and eaves?
- Are adequate screens in place to guard against pests?
- Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?
- If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?

Housekeeping

- Have the following been removed from the interior: trash, hazardous materials such as inflammable liquids, poisons, and paints and canned goods that could freeze and burst?
- Is the interior broom-clean?
- Have furnishings been removed to a safe location?
- If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?
- Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?
- Is there a building file?

Security

- Have fire and police departments been notified that the building will be mothballed?
- Are smoke and fire detectors in working order?
- Are the exterior doors and windows securely fastened?
- Are plans in place to monitor the building on a regular basis?
- Are the keys to the building in a secure but accessible location?
- Are the grounds being kept from becoming overgrown?

Utilities

- Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?
- If the building will not remain heated, have water pipes been drained and glycol added?
- If the electricity is to be left on, is the wiring in safe condition?

Ventilation

- Have steps been taken to ensure proper ventilation of the building?
- Have interior doors been left open for ventilation purposes?
- Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?

Maintenance Chart

1-3 months; periodic

- regular drive by surveillance
- check attic during storms if possible
- monthly walk arounds
- check entrances
- check window panes for breakage
- mowing as required
- check for graffiti or vandalism
- enter every 3 months to air out
- check for musty air
- check for moisture damage
- check battery packs and monitoring equipment
- check light bulbs
- check for evidence of pest intrusion

Every 6 months; spring and fall

- site clean-up; pruning and trimming
- gutter and downspout check
- check crawlspace for pests
- clean out storm drains

Every 12 months

- maintenance contract inspections for equipment/utilities
- check roof for loose or missing shingles
- termite and pest inspection/treatment
- exterior materials spot repair and touch up painting
- remove bird droppings or other stains from exterior
- check and update building file

Summary and References

Providing temporary protection and stabilization for vacant historic buildings can arrest deterioration and buy the owner valuable time to raise money for preservation or to find a compatible use for the property. A well planned mothballing project involves documenting the history and condition of the building, stabilizing the structure to slow down its deterioration, and finally, mothballing the structure to secure it. The three highest priorities for a mothballed building are 1) to protect the building from sudden loss, 2) to weatherize and maintain the property to stop moisture penetration, and 3) to control the humidity levels inside once the building has been secured.

While issues regarding mothballing may seem simple, the variables and intricacies of possible solutions make the decision-making process very important. Each building must be individually evaluated prior to mothballing. In addition, a variety of professional services as well as volunteer assistance is needed for careful planning and repair, sensitively designed protection measures, follow-up security surveillance, and cyclical maintenance.

In planning for the future of the building, complete and systematic records must be kept and generous funds allocated for mothballing. This will ensure that the historic property will be in stable condition for its eventual preservation, rehabilitation, or restoration.

Acknowledgements

The author, **Sharon C. Park**, Senior Historical Architect, Heritage Preservation Services Division, National Park Service, would like to acknowledge the assistance of the following individuals in the preparation and review of this publication. H. Ward Jandl served as the technical editor and assisted with producing this Preservation Brief. In addition the following persons have provided invaluable information and illustrations: Ernest A. Conrad, PE; Doug Hicks, NPS Williamsport Preservation Training Center; Thomas C. Taylor, Colonial Williamsburg; Karen Gordon, Seattle Urban Conservation Office; Kevin B. Stoops, Seattle Department of Parks and Recreation; Michael Mills, AIA; Christina Henry, architect, Mary Beth Hirsch, Ohio Historical Society. Thanks also to Heritage Preservation Services Division staff members Michael J. Auer, Anne

E. Grimmer, Kay D. Weeks, Tim Buehner, and Jean Travers, and to the numerous staff members of the NPS Regional offices who submitted comments. All photographs and drawings are by the author unless otherwise noted.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Technical Preservation Services (TPS), National Park Service prepares standards, guidelines, and other educational materials on responsible historic preservation treatments to a broad public.

September 1993

Reading List

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Solon, Thomas E. "Security Panels for the Foster-Armstrong House." Association for Preservation Technology Bulletin. Vol XVI no. 3 and 4, 1984. (note the design of the panels, but be aware that additional louvering may be needed on other projects).

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Appendix D: **Thomas E. Solon, AIA Emeritus, Security Panels for the Foster-Armstrong House**

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Security Panels for the Foster-Armstrong House
Author(s): Thomas E. Solon
Source: *Bulletin of the Association for Preservation Technology*, Vol. 16, No. 3/4, National Park Service (1984), pp. 70-73
Published by: Association for Preservation Technology International (APT)
Stable URL: http://www.jstor.org/stable/1494042
Accessed: 11-07-2017 18:54 UTC

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SECURITY PANELS FOR THE FOSTER-ARMSTRONG HOUSE

Thomas E. Solon, AIA*

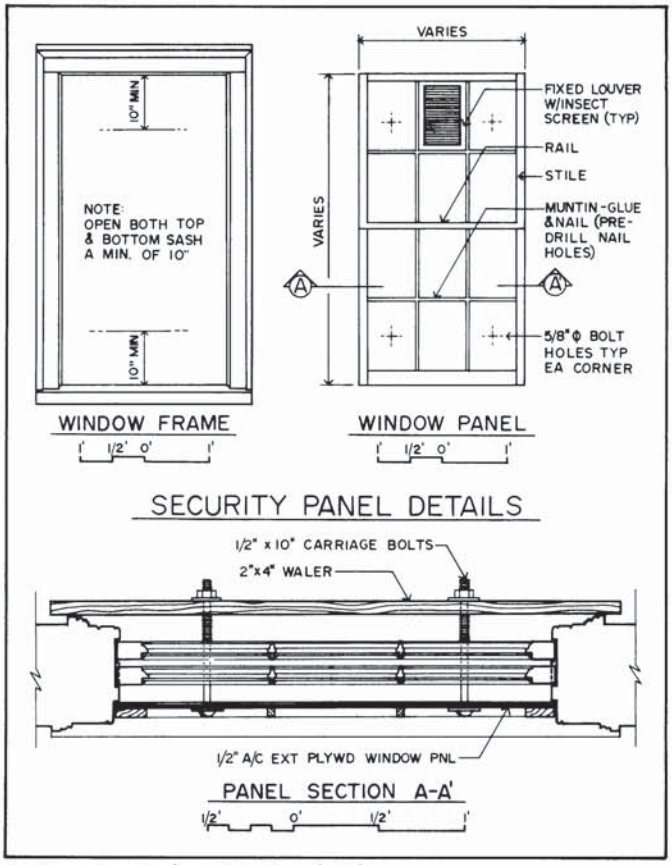
The authorization of the Delaware Water Gap National Recreation Area (DEWA) by Congress in 1965[1] set in motion several years of land acquisition. During these years a multitude of historic structures were placed under the care and protection of the National Park Service. Budgetary constraints did not allow for the immediate restoration and utilization of these historic structures. Therefore, many structures were mothballed until such time as funds became available. Utilities were disconnected and anything from old floor boards to sheets of plywood were nailed directly to the face of door and window frames to "protect" these unused historic structures. The boards would have to be pried off each time a building was entered or when daylight was needed to carry out surveys or interior repairs. Damage was cumulative each time the boards were removed and reinstalled. Indeed, the crowbar proved to be more damaging to historic fabric than the nails.

An even greater negative impact to each building, however, was the effect that the solid covers had on ventilation. Since these unheated structures were unable to breathe, the interior finishes were deteriorating rapidly.

During this period of mothballing, many secured structures were nevertheless vandalized; some were even burned to the ground. And while these atrocities could be directly attributed to the controversial origins of DEWA,[2] there is little doubt that the unattractive manner in which the structures were boarded up was also a contributing factor.

An improved window cover designed to overcome these problems was developed for the historic Foster-Armstrong House[3] when that building was stabilized by the National Park Service in 1982-83.[4] The new security panels would serve to protect the structure until restoration was undertaken in 1984. Intrinsically they were designed to be:

1. Easily removable from the inside.
2. Tamper-proof from the outside.
3. Capable of introducing outside air to ventilate the structure.



2. Security panel construction details.

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1. Foster-Armstrong House, Sussex County, New Jersey (c. 1790-1812), photo taken in 1982 before stabilization. (*photo by author*)

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4. Attractive, giving an impression that the structure is being cared for and that further improvements are forthcoming.

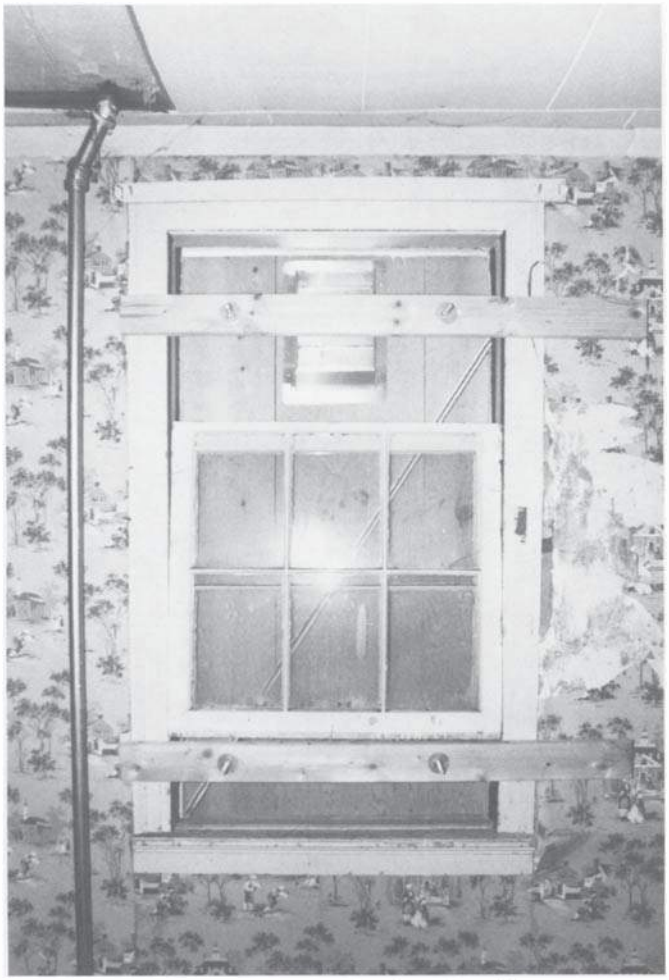
The security panels (Fig. 2) were constructed of 1/2" thick exterior grade plywood, sized to fit into the rabbeted surrounds of the historic window frames (where shutters or storm windows were originally placed). The plywood panel was through-bolted to easily removable horizontal 2 x 4 wood walers located on the interior using 1/2" diameter carriage bolts (Fig. 3). When these bolts are drawn tight, the panels are exceptionally tamper-resistant.[5] Ventilation was introduced using ordinary aluminum gable wall vents with integral louvers and insect screening (the type available at any lumber yard).

To achieve "attractiveness," the panels could have been painted medium gray. However, the Foster-Armstrong House has high visibility on a heavily traveled highway. In addition, it was going to be offered for lease under the Historic Property Leasing Program.[6] Prospective tenants would have to be awakened to the full potential of this elegant structure which had stood in disrepair for several years. With this in mind, the security panels were fabricated to simulate the historic 6/6 sash (Fig. 4). A trompe d'oeil effect could have been accomplished by painting the panels white, masking out the muntins, stiles and rails and painting the "glass" medium gray, however, the project architects instead applied millwork to the plywood to suggest muntins, stiles and rails, thus giving the covers a three-dimensional appearance (and additional rigidity). The finished panels simulated the original 6/6 sash. The aluminum vent was neatly inserted into the top center "light" of the "upper sash." The overall result was very effective, especially as seen from the highway (Fig. 5).

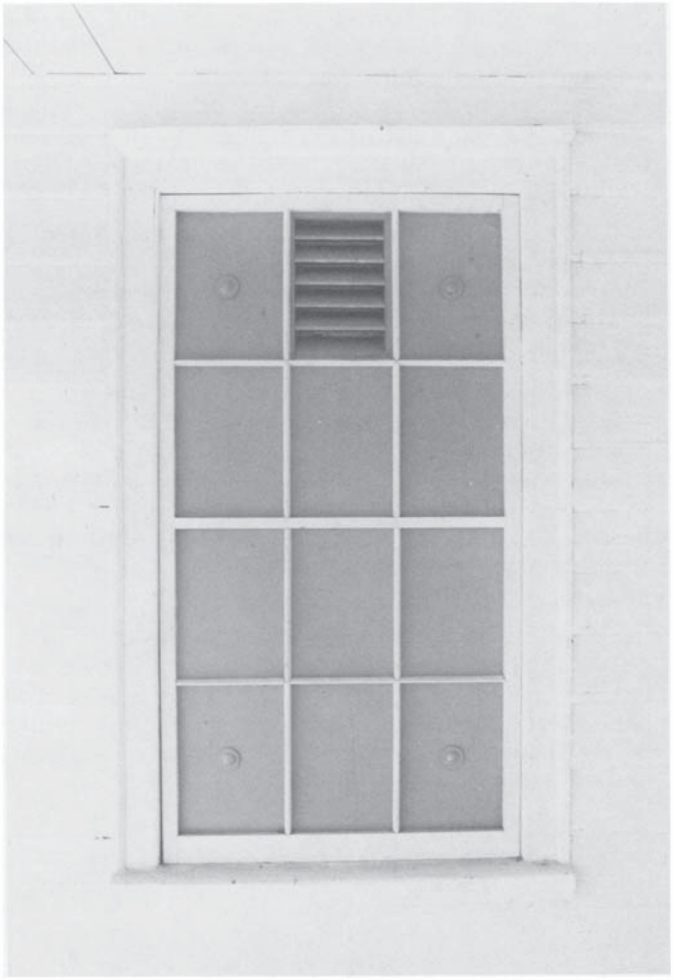
Admittedly, this was not an inexpensive window cover. And while the millwork could have been simplified or eliminated entirely in favor of a one-dimensional panel, the panels, as constructed were a great success.

The local population took a renewed interest in the Foster-Armstrong House following its stabilization. Having once contemplated constructing a new town hall, they are now negotiating with the National Park Service to lease and adaptively reuse the building.[7]

Future stabilization projects for DEWA structures of less significance or visibility may omit the applied millwork on security panels while retaining the removable and ventilating features. Meanwhile, it is hoped that



3. Interior view of completed panel. (*photo by author*)



4. Exterior view of completed panel. (*photo by author*)

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5. The Foster-Armstrong House after stabilization was completed in 1983. (*photo by author*)

existing surface nailed window covers can at least be retrofitted with aluminum vents and, as funds and manpower become available, secured, using the interior wood waler system.

In conclusion, it must be noted that these are only temporary measures, used to protect and secure structures awaiting future restoration and utilization. As one step of a responsible stabilization program, properly designed security panels will help protect mothballed structures from avoidable demolition by neglect.

Footnotes:

1. This 70,000-acre, 38-mile-long, scenic national recreation area lies along the Pennsylvania and New Jersey banks of the Delaware River. Farm sites and rural villages are located in the relatively unspoiled flatlands along the river. Trails lead to remote scenic natural areas of waterfalls, hidden lakes, and hemlock ravines. The river flows through the famous gap in the Kittatinny Ridge at the southern end of the park.
2. For flood control, the Federal Government had originally intended to dam the Delaware River at Tocks Island, creating a 12,000 acre reservoir. This was to have been a center piece of a 70,000 acre park. While acquiring the land at least 8,000 residents in both states were evicted and more than 3,000 houses, stores, churches and farmhouses were bulldozed or moved. Eventually, as a result of a grassroots protest, the dam project was shelved and in 1978 the area was placed into the Wild and Scenic Rivers system to be preserved in its natural state.
3. The Foster-Armstrong House is located in Sussex County, New Jersey along the Old Mine Road and was built between 1790 and 1812 by Julius Foster, a millwright from Long Island, N.Y. and James Armstrong, a shoemaker from Frankford, New Jersey and is notable for its gambrel roof with bell eaves, a handsomely detailed "Dutch" entrance door crowned by a Federal period transom and a large cooking fireplace in the stone kitchen wing which is flanked by a "beehive" oven protruding to the outside.
4. Stabilization plans and specifications were prepared by Project Architects Ken Bennett and Roger Evans of the Denver Service Center while the construction contract was awarded to the construction firm of LeRoy E. Shoesmith of Cresco, Pennsylvania. Construction was overseen by the author.
5. While the origin of this system is uncertain, it probably evolved from construction detailing of concrete formwork. Note that carriage bolts of lesser diameter would have sufficed. Also, users of these panels have suggested replacing the hex nuts with wing nuts. The panels could then be loosened or tightened without the use of tools.
6. Historic structures are offered for leases by the National Park Service under the Historic Property Leasing Program as authorized by Section 111 of the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by Public Law 96-515.
7. John Bruce Dodd, AIA, Historical Architect at DEWA has prepared plans and specifications for the adaptive restoration. Work began in the fall of 1984.

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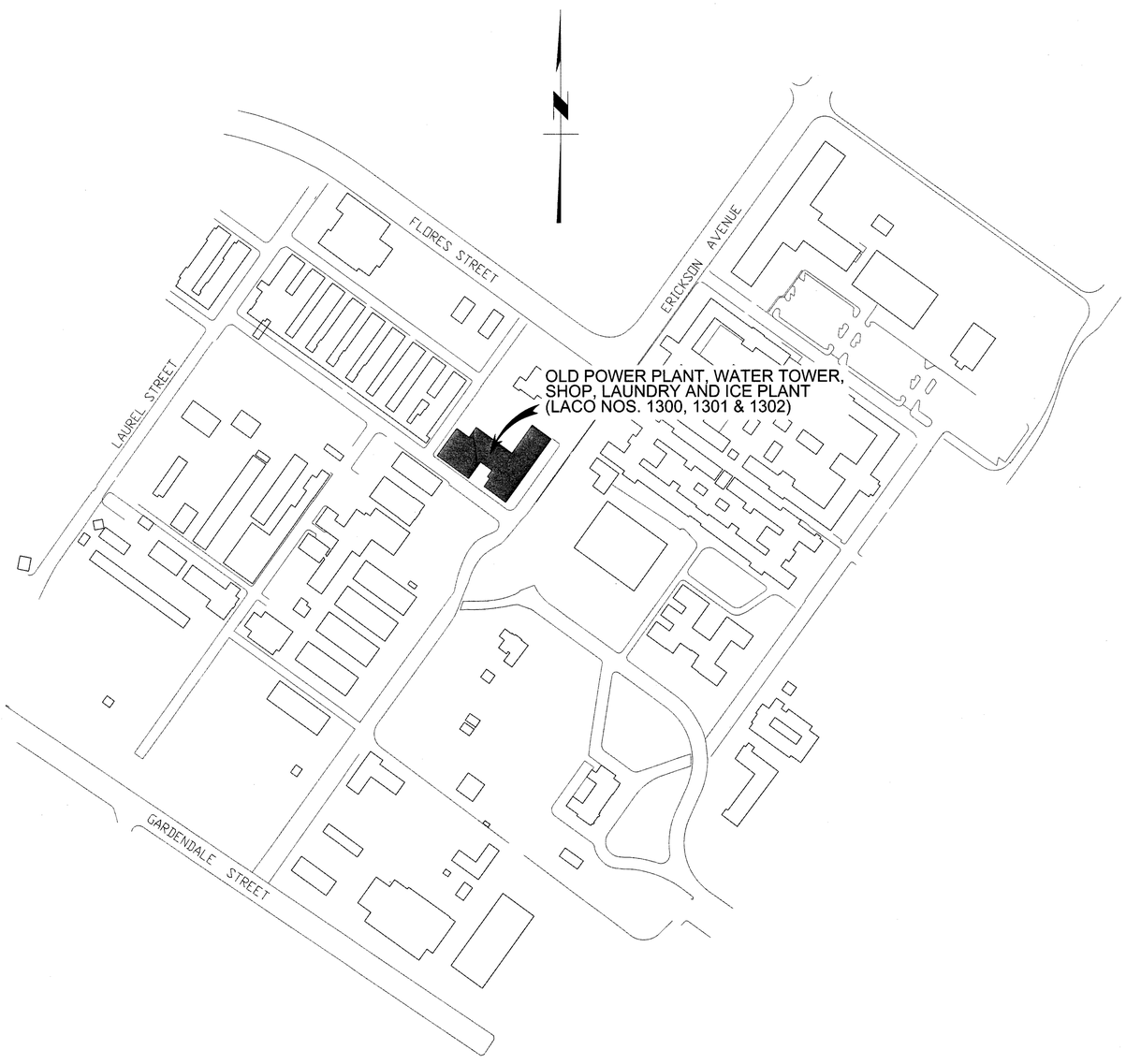
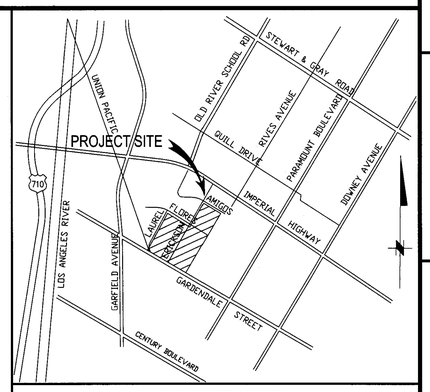
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
OLD POWER PLANT, WATER TOWER, SHOP, LAUNDRY AND ICE PLANT
(LACO NOS. 1300, 1301 & 1302)

7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242

August 2, 2007





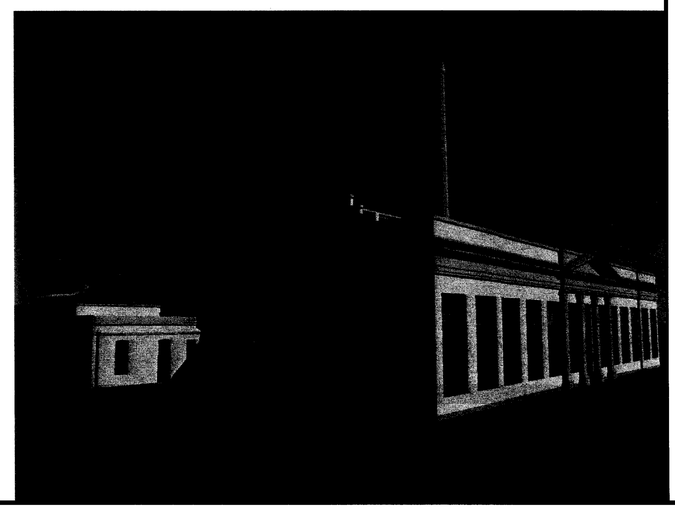
VICINITY MAP

BENCHMARK :

B.M. NO. Y 10723 LOS ANGELES COUNTY DATUM (SOUTH GATE)
LACO BM TAG IN W CB 13.7M N/O BCR @ NW COR OLD RIVER SCHOOL RD & IMPERIAL HWY 35M N & 9.7 M W/O C/L INT
ELEVATION = 95.233 (2000 ADJUSTMENT)

NOTE :

THESE PLANS ARE DERIVED FROM EXISTING ARCHITECTURAL DRAWINGS BY THE COUNTY OF LOS ANGELES MECHANICAL DEPARTMENT DATED FEBRUARY 11, 1926 WHICH WERE DEEMED ACCURATE UPON FIELD SURVEY. DISCERNABLE MODIFICATIONS HAVE BEEN MADE AND ARE NOT SHOWN ON THESE TYPICAL PLANS AS THEY ARE NOT ORIGINAL TO THE STRUCTURES.



Sheet List Table

General	
G-100	Cover Sheet
Architectural: Plans	
A-101	First Floor Plan
A-102	Roof Plan
A-103	Reflected Ceiling Plan
A-104	Trenches & Underground Tunnels
Architectural: Elevations and Sections	
A-201	Building Elevations
A-202	Building Elevations
A-301	Building Sections
A-302	Building Sections
Architectural: Schedules	
A-401	Door Schedule

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RANCHO

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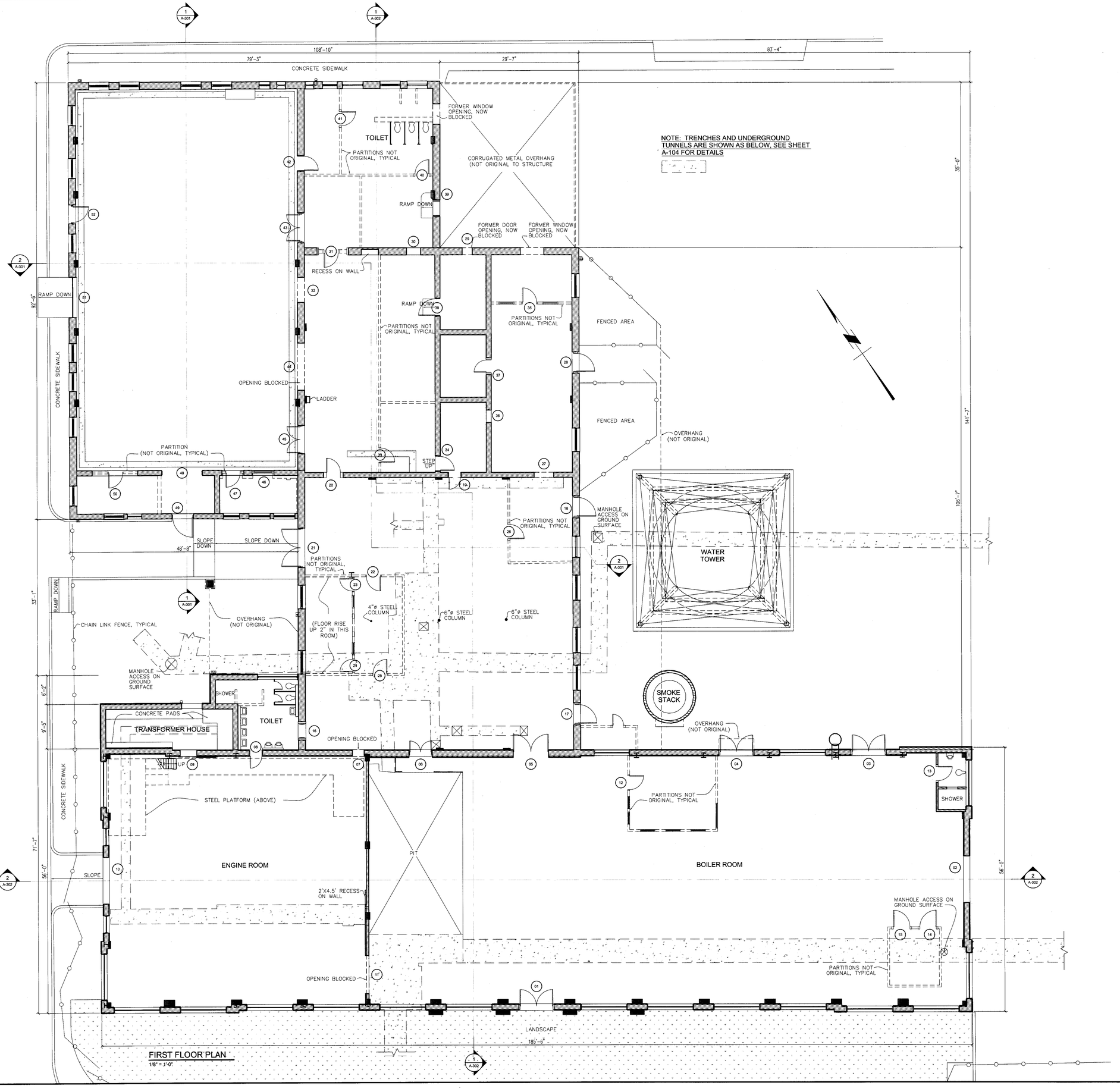

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(LACO NOS. 1300, 1301 & 1302)

7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242

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Exp. 12-31-07
STATE OF CALIFORNIA

Kevin R. Hills 6617

August 2, 2007
DATE:

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SHEET TITLE

FIRST FLOOR PLAN

A-101

SHEET 2 OF 10

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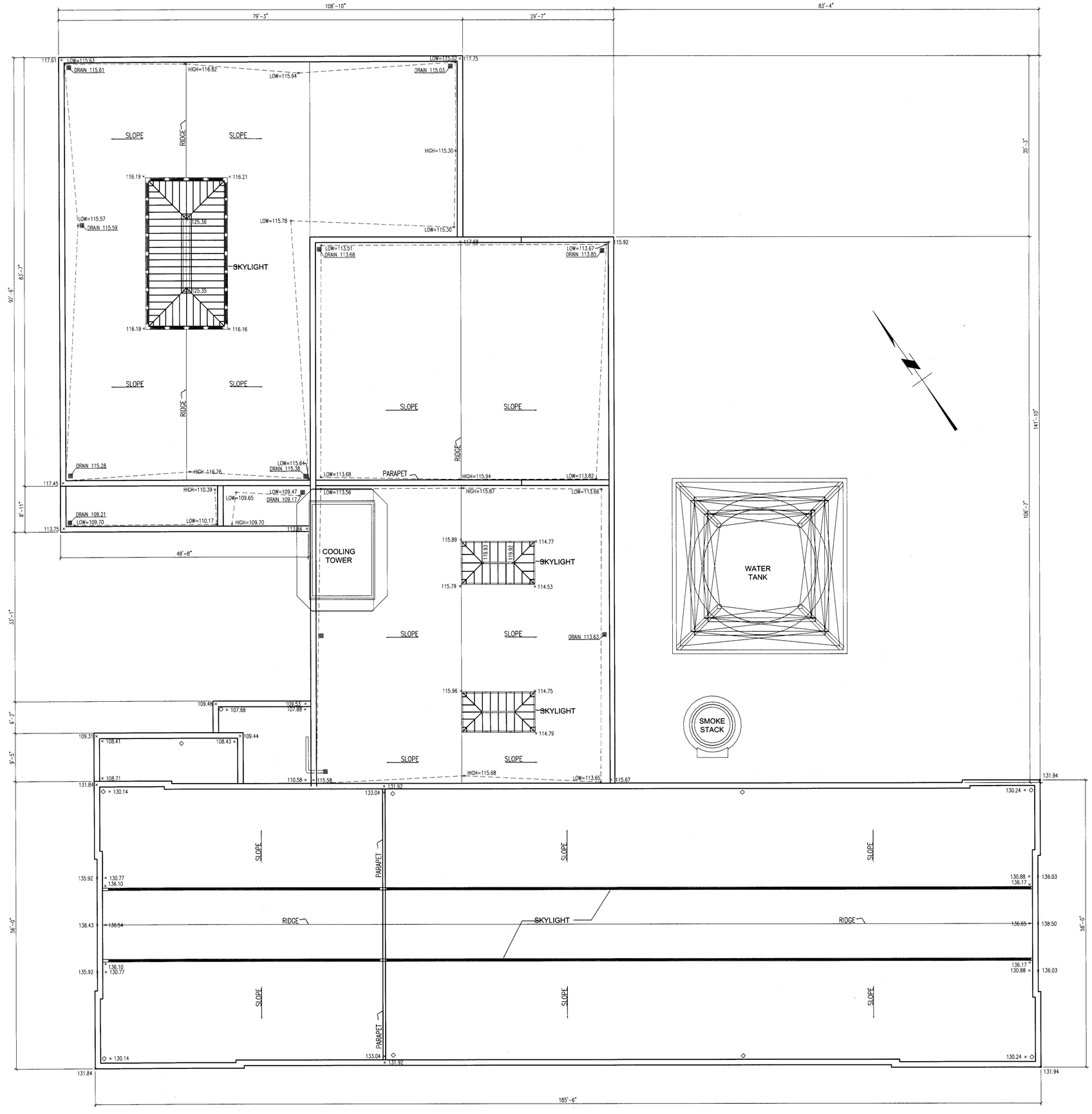

ROOF PLAN
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ROOF PLAN

A-102

SHEET 3 OF 10

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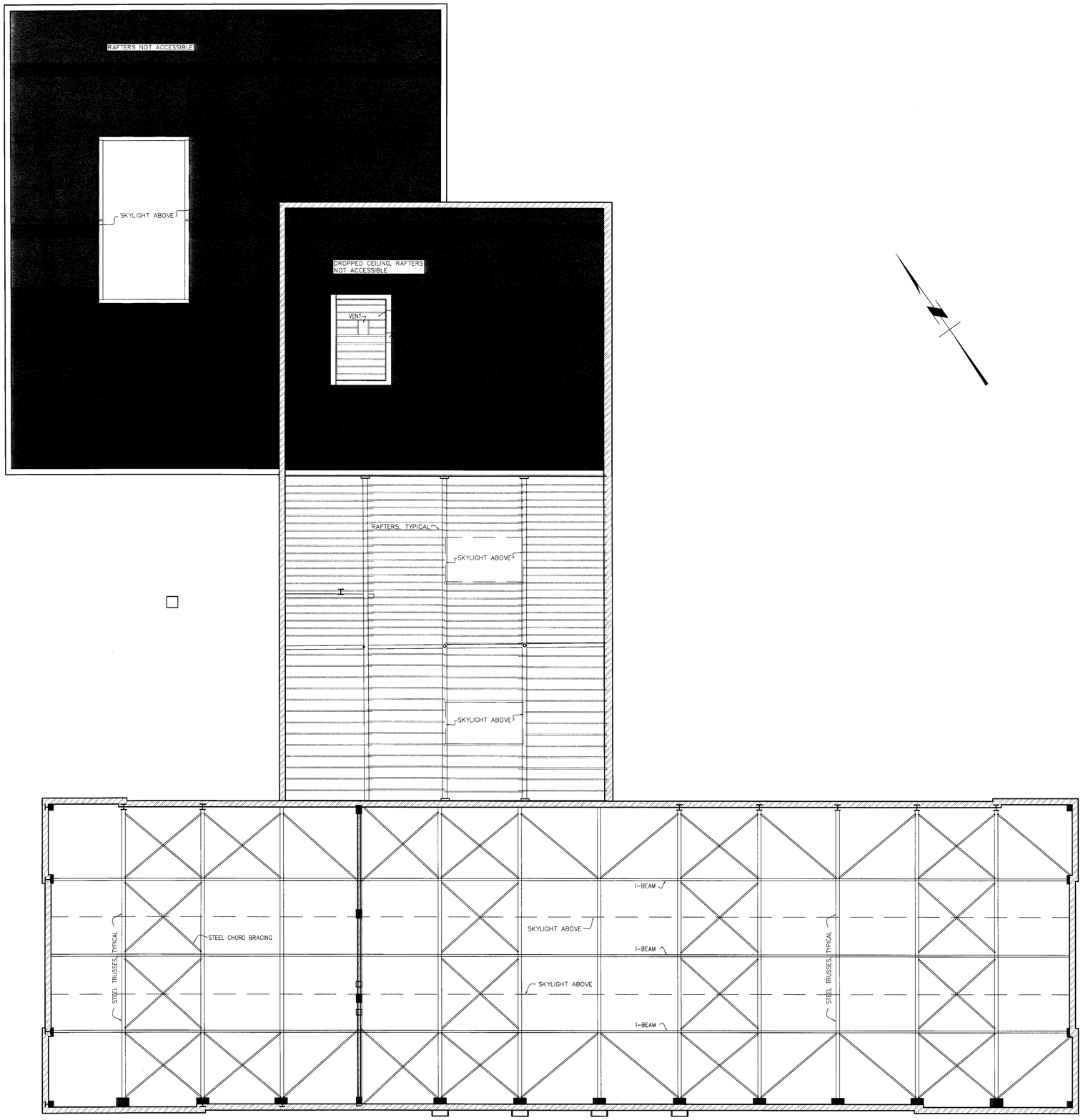

REFLECTED CEILING PLAN
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REFLECTED CEILING PLAN

A-103

SHEET 4 OF 10

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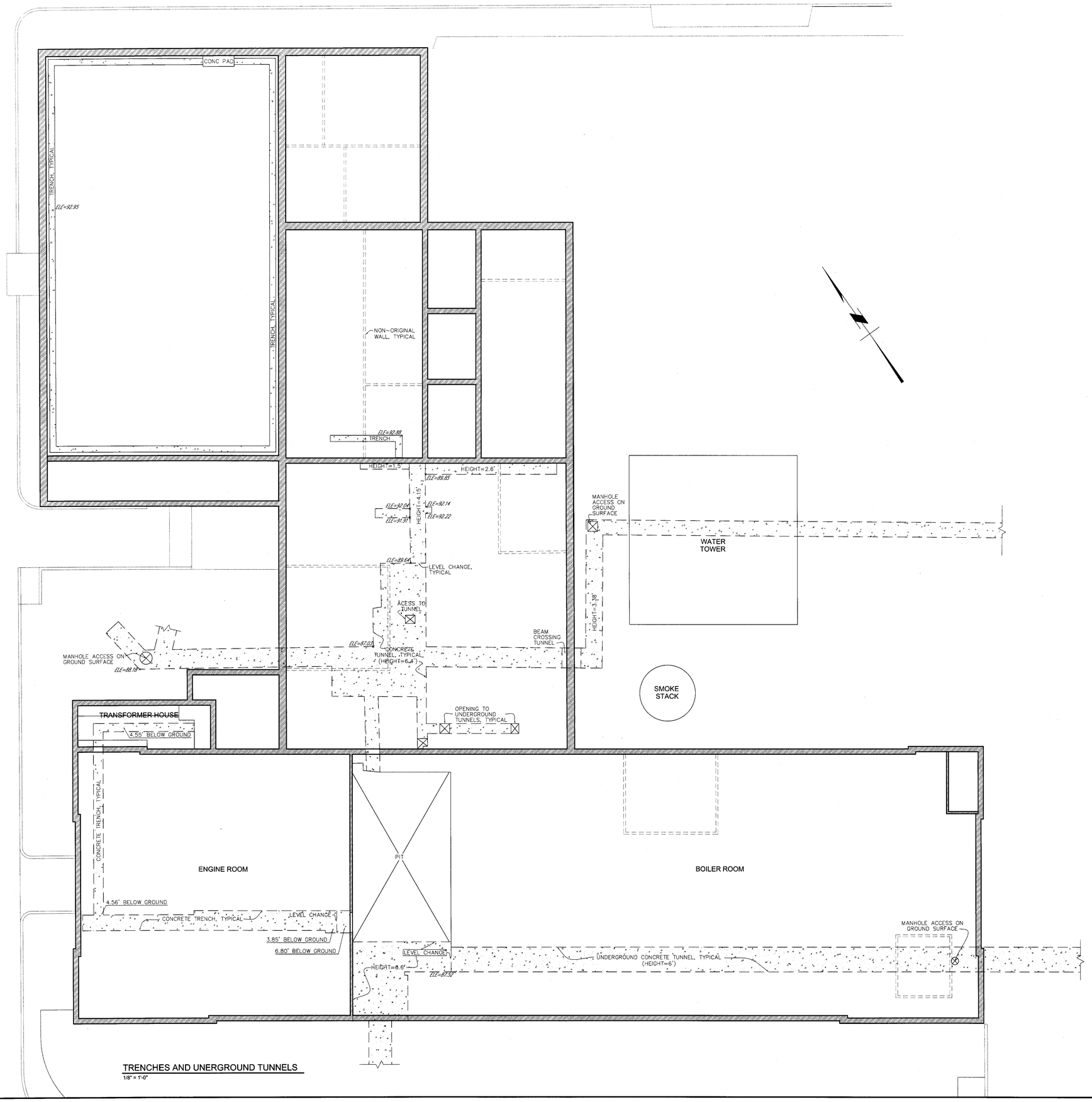

TRENCHES AND UNERGROUND TUNNELS
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SHEET TITLE

TRENCHES & UNDERGROUND TUNNELS

A-104

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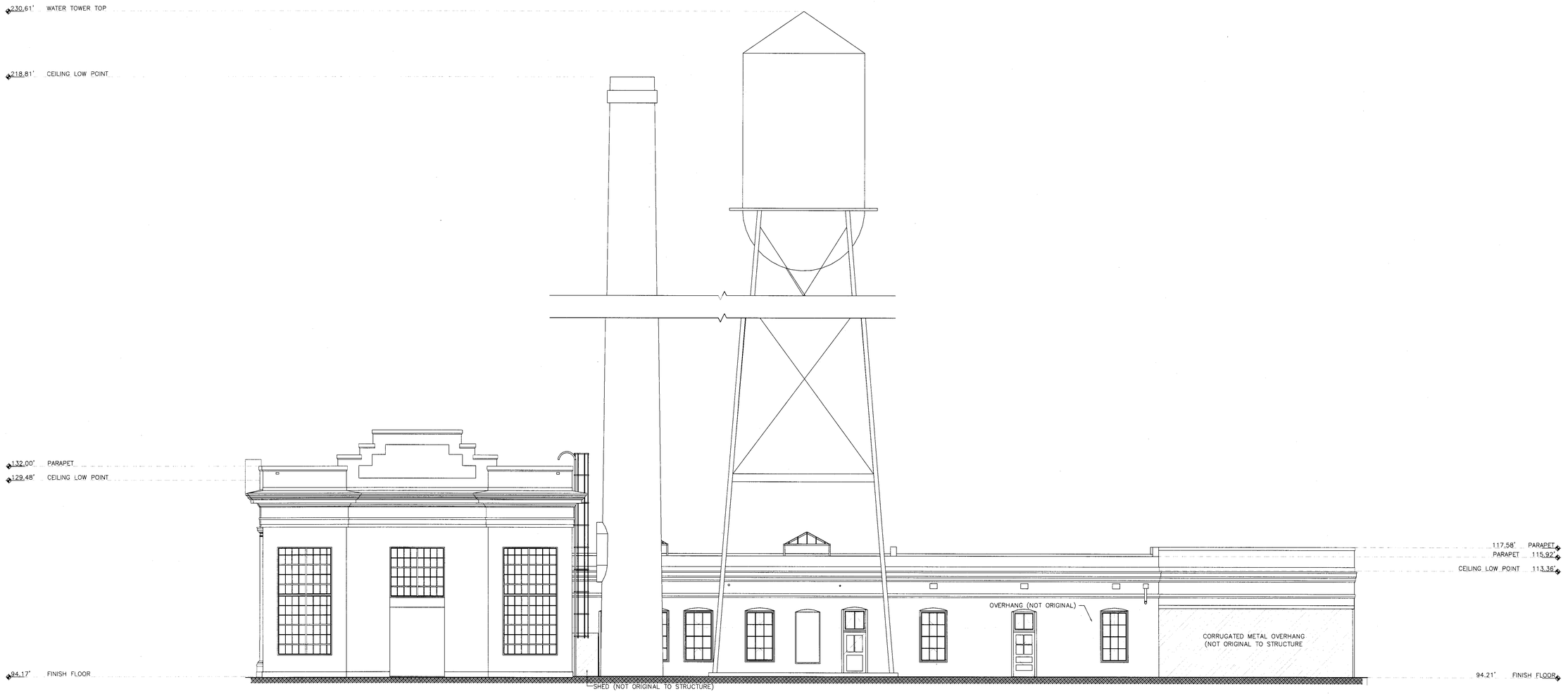
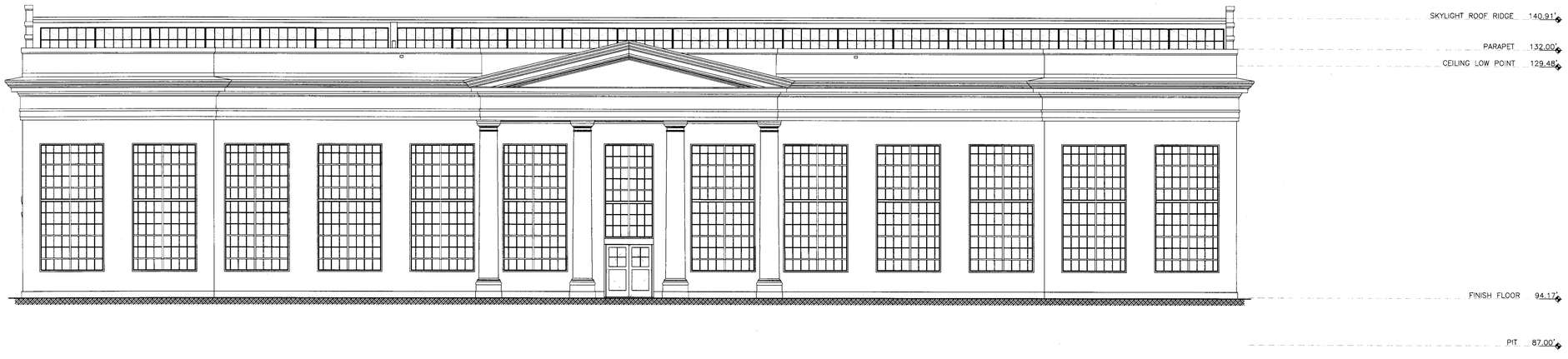


WEST ELEVATION
1/8" = 1'-0"



NORTH ELEVATION
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EXTERIOR ELEVATIONS

A-201

SHEET 6 OF 10

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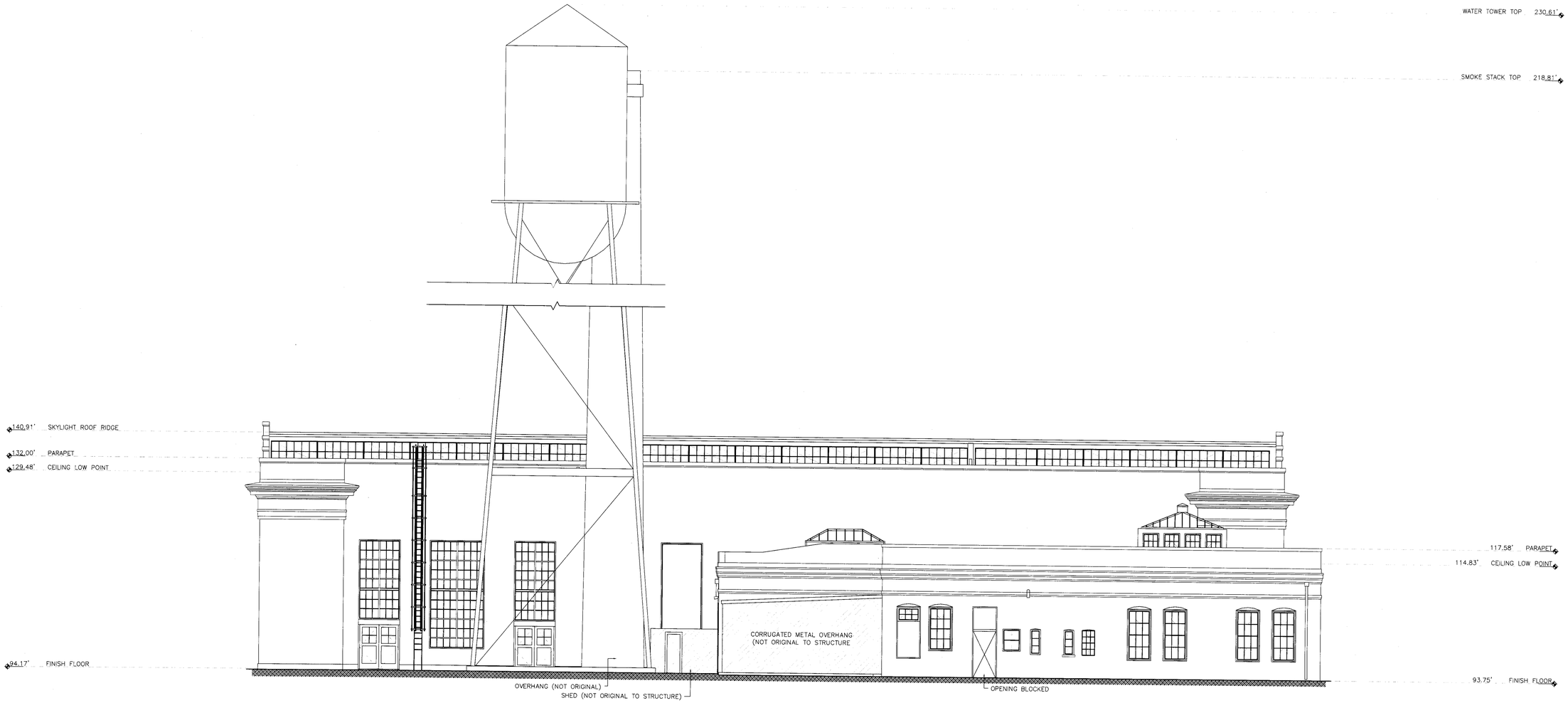

SOUTH ELEVATION
1/8" = 1'-0"

EAST ELEVATION
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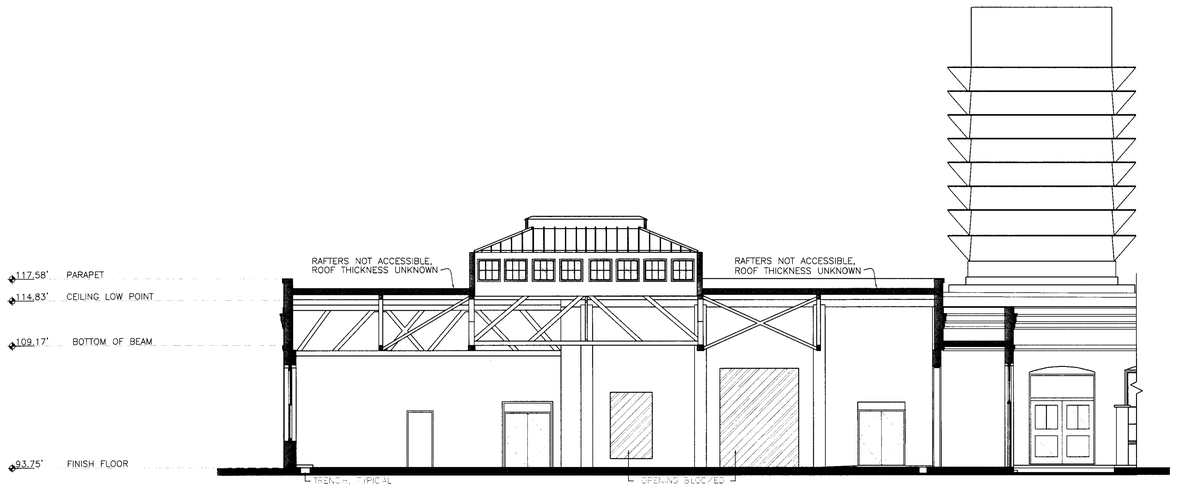
SHEET TITLE	

EXTERIOR ELEVATIONS

A-202

SHEET 7 OF 10

Plot: 8/2/2007 9:10:28 AM By: ---- CAD: C:\Projects\553-RANCHO LOS AMIGOS-DOWNEY\Survey\ADT\1300-1302 Power Plant\Power Plant\Sheets\A-202 Exterior Elevations.dwg



1 SECTION
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2 SECTION
1/8" = 1'-0"

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CAD: A-301 BUILDING SECTIONS.DWG
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SHEET TITLE

BUILDING SECTIONS

A-301

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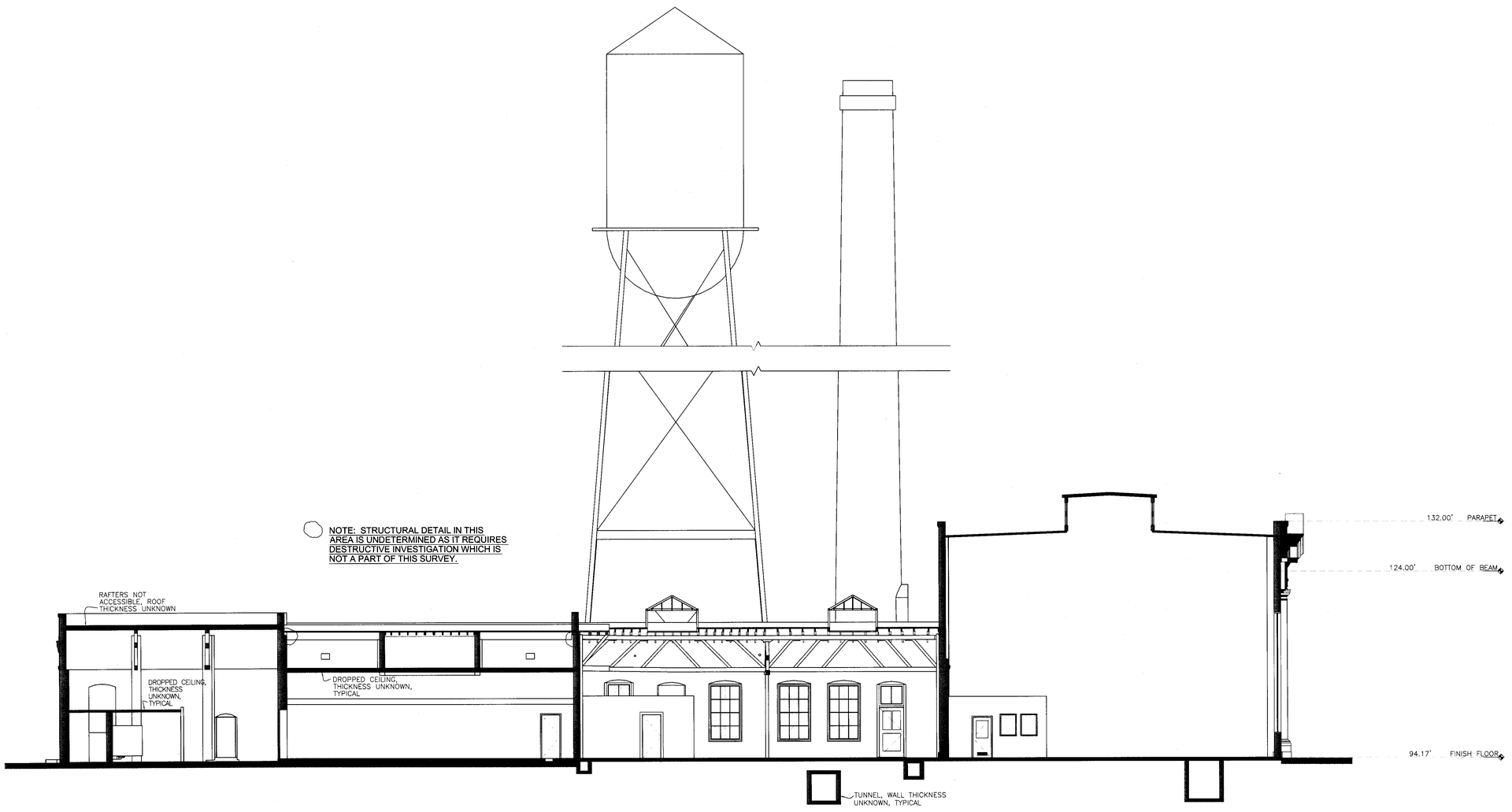

1 SECTION
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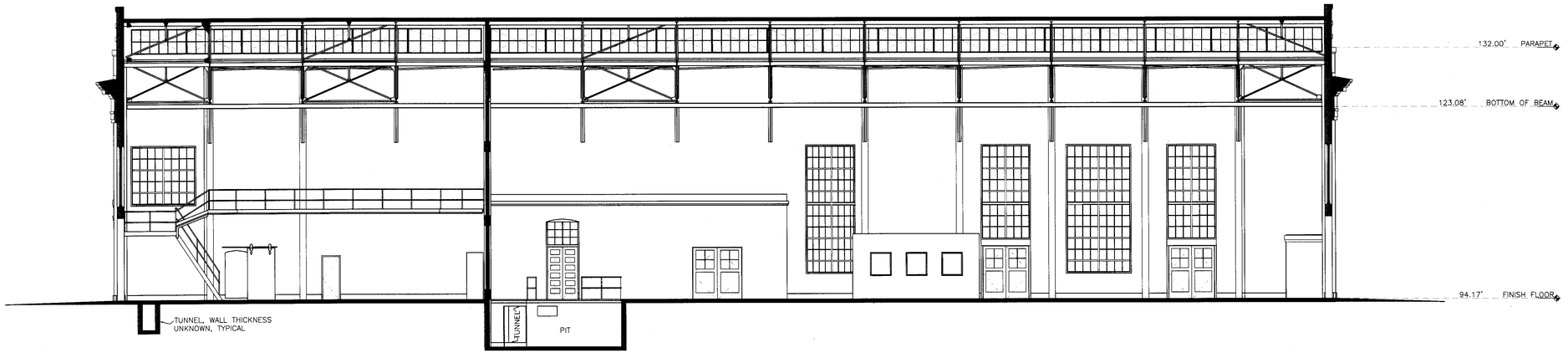

2 SECTION
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RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER

RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
OLD POWER PLANT, WATER TOWER, SHOP, LAUNDRY AND ICE PLANT
(LACO NOS. 1300, 1301 & 1302)

7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242

PREPARED BY OR UNDER THE DIRECTION OF:

LICENSED LAND SURVEYOR
KEVIN R. HILLS
No. 6617
Exp. 12-31-07
STATE OF CALIFORNIA

Kevin R. Hills 6617
August 1, 2007
DATE:

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PROJECT NO:	553
CAD:	A-302 BUILDING SECTIONS.DWG
DRAWN:	SC
CHECKED:	KRH
SCALE:	

SHEET TITLE

BUILDING SECTIONS

A-302

SHEET 9 OF 10

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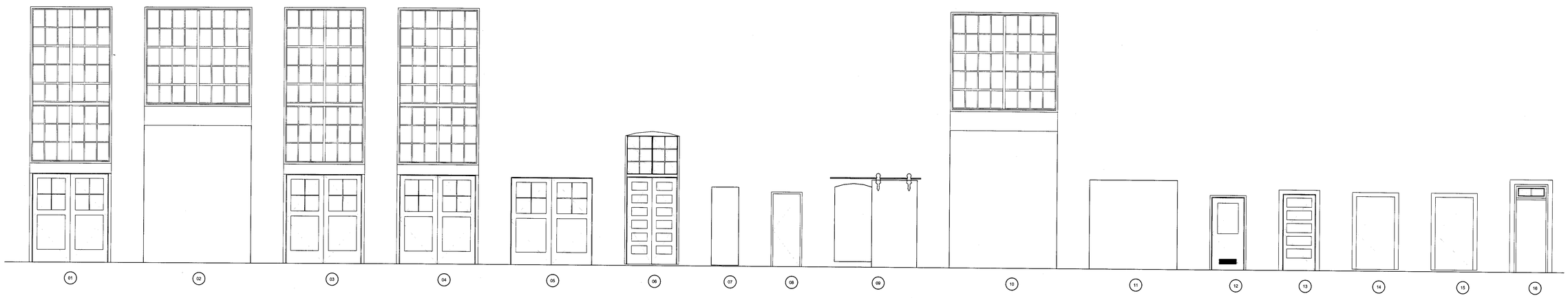

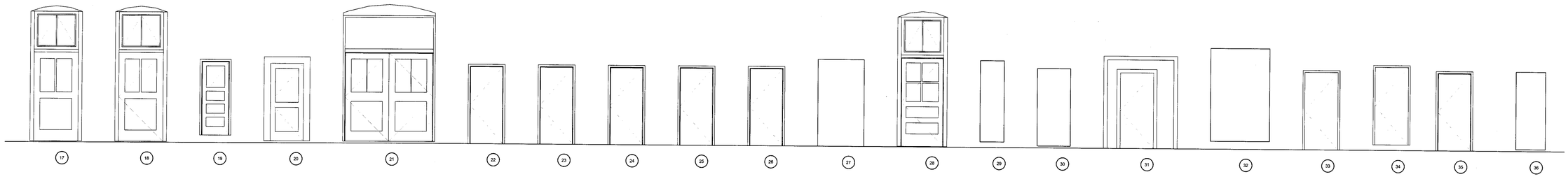

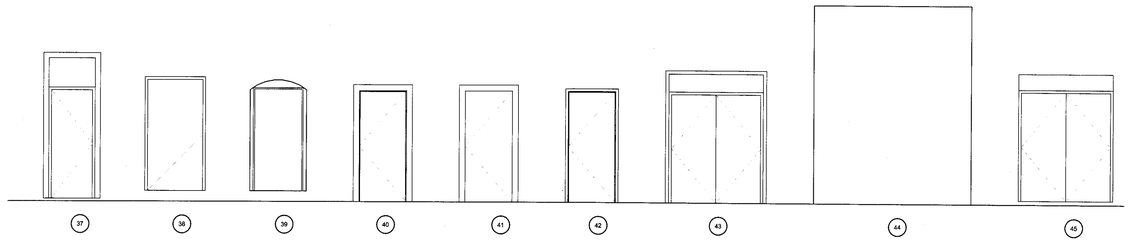

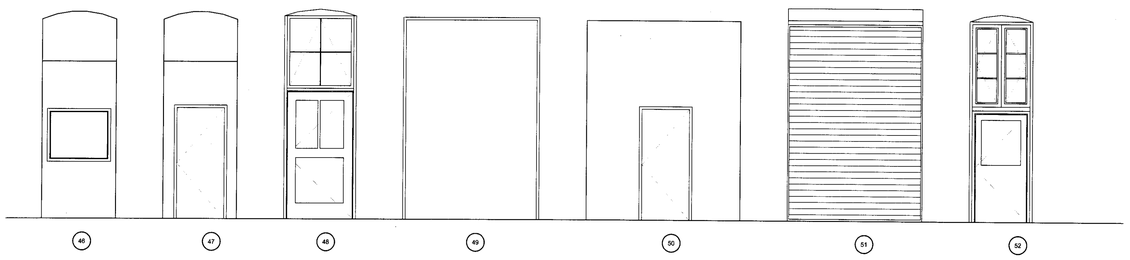

DOOR ELEVATIONS
1/4" = 1'-0"

DOOR SCHEDULE

NO.	DOOR SIZE WD	DOOR SIZE HGT	DOOR SIZE THK	MATL	THRSHLD HGT	ORIGINAL HARDWARE (YES/NO)	NOTES
1	7'-6"	23'-5 1/4"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
2	9'-10 3/4"	23'-5 1/4"	NA	NA	0"	NA	NO DOOR
3	7'-6"	23'-5 1/4"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
4	7'-6"	23'-5 1/4"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
5	7'-6"	8'-0"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
6	5'-0"	12'-2"	1 3/4"	WOOD	1 1/2"	YES	ORIGINAL DOOR
7	2'-6"	7'-2"	NA	NA	1"	NA	BLOCKED OPENING
8	2'-6"	6'-8"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
9	3'-6"	7'-2"	NA	NA	6"	NA	OPENING
10	9'-10 3/4"	23'-5 1/4"	NA	NA	0"	NA	NO DOOR
11	8'-1"	8'-2"	NA	NA	0"	NA	BLOCKED OPENING
12	3'-0"	6'-8"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
13	3'-0"	7'-0"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
14	3'-6"	6'-8"	1 3/4"	WOOD	2"	NO	NON-ORIGINAL DOOR
15	3'-6"	6'-8"	1 3/4"	WOOD	2"	NO	NON-ORIGINAL DOOR
16	3'-11"	8'-6"	1 3/4"	NA	0"	NA	ORIGINAL DOOR FRMAE, NO DOOR
17	4'-8"	12'-2"	1 3/4"	WOOD	1"	YES	ORIGINAL DOOR
18	4'-8"	12'-6"	1 3/4"	WOOD	1"	YES	ORIGINAL DOOR
19	2'-6"	6'-8"	1 3/4"	WOOD	8"	YES	ORIGINAL DOOR, DOOR OPENING CONVERTED TO SHELVES
20	3'-0"	7'-0"	1 3/4"	WOOD	2"	YES	ORIGINAL DOOR
21	8'-4"	12'-7"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
22	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
23	2'-8"	7'-6"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
24	2'-8"	7'-6"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
25	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
26	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
27	4'-2"	7'-10"	NA	NA	0"	NA	BLOCKED OPENING
28	4'-6"	12'-2"	1 3/4"	WOOD	1/2"	YES	ORIGINAL DOOR
29	2'-2"	7'-4"	NA	NA	6"	NA	HALF-BLOCKED OPENING
30	3'-0"	7'-0"	NA	NA	2"	NA	OPENING
31	3'-0"	6'-10"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR INSIDE OF ORIGINAL DOOR FRAME
32	5'-4"	8'-4 1/2"	NA	NA	8 1/2"	NA	BLOCKED OPENING
33	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
34	3'-0"	7'-0"	1 3/4"	WOOD	6"	NO	NON-ORIGINAL DOOR
35	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
36	2'-8"	7'-0"	NA	NA	2"	NA	OPENING
37	2'-11"	7'-0"	1 3/4"	WOOD	2"	NO	NON-ORIGINAL DOOR INSIDE OF ORIGINAL DOOR FRAME
38	3'-6"	7'-0"	1 3/4"	WOOD	8"	NO	NON-ORIGINAL DOOR
39	3'-0"	6'-5"	NA	WOOD	8"	NA	NON-ORIGINAL DOOR INSIDE OF ARCH OPENING
40	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
41	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
42	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
43	5'-8"	6'-10"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR INSIDE OF ORIGINAL DOOR FRAME
44	10'-0"	12'-6"	NA	NA	0"	NA	BLOCKED OPENING
45	6'-0"	8'-0"	1 3/4"	WOOD	3"	NO	NON-ORIGINAL DOOR INSIDE OF ORIGINAL DOOR FRAME
46	4'-8"	13'-1"	NA	NA	0"	NA	ARCH OPENING, BLOCKED BY 9'-11" HIGH NON-ORIGINAL WALL
47	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	ARCH OPENING, BLOCKED BY 9'-11" HIGH NON-ORIGINAL WALL
48	8'-4"	12'-7"	NA	WOOD	0"	YES	ORIGINAL DOOR
49	4'-7"	13'-2 7/8"	NA	WOOD	0"	NA	ORIGINAL DOOR FRAME, NO DOOR
50	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	OPENING, BLOCKED BY 9'-11" HIGH NON-ORIGINAL WALL
51	8'-6 1/2"	12'-5"	NA	METAL	0"	NO	NON-ORIGINAL COILING DOOR
52	4'-0"	13'-1"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR

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RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER

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PROJECT NO:	553
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SCALE:	

SHEET TITLE

DOOR SCHEDULE

A-401

SHEET 10 OF 10

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E LACO Nos. 1300 and 1302 (Power Plant, Shop, Laundry and Ice Plant) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)

MGAC

Mothballing Cost Plan — Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)

			SF	$/SF	TOTAL $ x 1,000
B1	Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)		23,838	45.98	1,096
TOTAL BUILDING CONSTRUCTION			23,838	45.98	1,096
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**1,096**
Escalation to Midpoint (Jul 2021)		11.7%			128
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			49
	Project Management Consultant Services	2.0%			25
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			13
	Building Permit and Other Agency Fees	1.5%			20
	Owner Contingency/Construction Contingency	10.0%			133
Recommended Budget					***1,464***

MGAC

Mothballing Cost Plan — Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)

Item Description	Quantity	Unit	Rate	Total
1.) Power Plant, Shop, Laundry & Ice Plant (LACO 1300, 1302)				
No of floors	***1***	***EA***		
Gross Floor Area	***23,838***	***SF***		
Gross Wall Area	***24,000***	***SF***		
Roof Area	***22,838***	***SF***		
Windows Area	***4,812***	***SF***		
Gross Site Area	***42,800***	***SF***		
Building footprint	***22,838***	***SF***		
Net Site Area	***20,000***	***SF***		
Stabilized structure	23,838	SF	1.50	35,757
Repaint exterior walls	24,000	SF	3.00	72,000
Protect existing openings (exterior doors)	5	EA	1,200.00	6,000
Protect existing openings (roll-up doors)	2	EA	2,500.00	5,000
Install hard protection/boarding to windows	4,812	SF	25.00	120,300
Seal all openings to eliminate small animals and pests from entering and nesting in the building	24,000	SF	0.10	2,400
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	22,838	SF	15.00	342,570
Termites, ants, rodents etc - inspection and allowance for treatment	23,838	SF	0.25	5,960
Install smoke & fire detectors including wiring	23,838	SF	1.00	23,838
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	8	EA	275.00	2,200
Remove debris and broom clean	23,838	SF	0.75	17,879
Clear site of weeds and overgrown trees	20,000	SF	0.50	10,000
Allowance for smoke stack	1	LS	200,000.00	200,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**853,403**
Z10 Design Contingency	15.00%			128,010
Z11 General Requirements	3.00%			29,442
Z21 General Conditions	3.00%			30,326
Z22 Bonds & Insurance	1.50%			15,618
Z23 Contractor's Overhead, Profit & Fee	3.75%			39,630
				1,096,429

Feasibility Study Reports for LACO No. 1301 (Water Tower)

Individually Eligible Contributor

ESA

A LACO No. 1301 (Water Tower) – Architectural Assessment Report

Water Tower (LACO 1301)

Built 1913

Primary, Individually – Eligible Contributor to the Historic District

Building Description

One of three vertical projections that characterize the Historic Power Plant complex, the Water Tower (LACO No.1301) is located in the courtyard formed by the 1909-1911 Shop, Laundry and Ice Plant (LACO No. 1302) buildings and the 1925 Power Plant (LACO No. 1300) building. The Water Tower is a freestanding steel trellis structure, standing 125 tall and topped by a 100,000-gallon capacity, bullet shaped, metal holding tank. Currently not in use, the structure is in fair condition. [1]

Statement of Significance

The significance of LACO No. 1301 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> This property was determined eligible for listing the National Register of Historic Places under Criterion A as a contributor to the Rancho Los Amigos Historic District on September 30, 1996. It is therefore also listed in the California Register of Historical Resources under Criterion 1. The current study confirmed the significance of the Water Tower (LACO No. 1301) as a contributor to the Historic District under Criterion A/1, association with events that have made a significant contribution to the broad patterns of local or regional history. The property is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The structure continued to serve in that capacity until the Power Plant was no longer operating. Visible from the surrounding community, the Water Tower also serves a place maker in the urban landscape.
>
> The Water Tower has no alterations and still reflects its period of construction. It retains integrity of location, feeling, association, design, materials, and workmanship. The structure has retained the character-defining features of a water holding tank, which include the bullet-shaped tank and freestanding steel trellis support structure. Its setting has been altered through the deterioration of the Historic Power Plant and the surrounding landscape.[2]

---

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Water Tower (LACO No. 1301),* prepared for the County of Los Angeles June 2, 2008.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Water Tower (LACO No. 1301),* prepared for the County of Los Angeles June 2, 2008.

Water tower

Existing Condition

• Steel is weathered and in need of re-finishing. No character defining features are noted.	• 100’ tower
• **Site –** Base concrete is cracked and overgrown with vegetation.	• Approximately 12,000 sf. at tower base

Proposed New upgrades

Exterior

• Retain Complete structure and holding tank. Remove all rust from steel, prime and paint.	
• **Site –** Remove existing exterior pavement and replace with new 4” thick concrete slab at rear of building and below water tower. Assume new, planting and irrigation with site amenities flatwork, exterior lighting and disabled access to structure.	• **Approximately 12,000 s.f.**

Water Tower Base

Water Tower with Power Plant and Chimney Stack

B LACO No. 1301 (Water Tower) – Structural Assessment Report

Structural Assessment: Water Tower
(LACO NO. 1301)

Summary of Assessment
The Water Tower is a steel structure, approximately 134 feet tall, located just west of the Power Plant Building. The structure consists of a large tank supported on four steel truss legs. No construction documents were available at the time of this report. It is unknown whether this structure was designed to withstand any seismic activity. However, the expected seismic performance of the tower in its current condition is poor. Considering the changes in building code requirements over time, the structure is expected to require upgrades and strengthening whether or not seismic forces were considered at the time of design. There appear to be feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation of the water tower, but an extensive analysis would be required to determine the degree of strengthening.

Description of the Building
The Water Tower, shown in Figures 1 through 3, is made of all steel members. It is thought to have been built more recently than many buildings at this site, likely between 1930-1940. The tower is situated inside the compound of the Power Plant Building, next to the concrete chimney. It appears to be empty, and it is assumed that it has not been used for a long time. The tank is made of steel plates. The four legs of the structure are made of channel sections, plate, and miscellaneous steel riveted together. Truss geometry was used for the legs and for the two sets of horizontal ties that connect all four legs (Figure 1). The tower is laterally braced by round, steel, tension-only cables.

Condition Assessment
The steel and connections, which are easily visible from the ground, appear to be in decent condition. Paint has protected most of the steel from corrosion and rust. The tank and upper portion of the tower were not accessible for observation but are assumed to be in a similarly decent condition.

Evaluation of Structural Performance
No construction documents for the water tower were available at the time of this report. It is unknown whether this structure was designed to withstand any seismic activity. Though the tension-only bracing theoretically does provide some lateral support, the expected seismic performance of the tower, in its current condition, is poor. A detailed analysis of all components of the water tower (truss columns, foundation, cable braces, rivets, etc.) would be required to determine its capacity and any necessary strengthening. This would involve materials testing and testing of the rivets and other connections. Strengthening of both the tower, all connections, and the tower foundation are likely to be required. It is likely that the water tower can be strengthened without significantly affecting its character-defining features. Many items can likely be replaced in-kind: the rivets can be replaced with bolts that appear similar, the tension cables can be replaced with higher-strength rods, and the truss columns can be supplemented or replaced by truss columns constructed of stronger steel.

Summary of Proposed Upgrades
An in-depth structural analysis is required to determine the extent of the required upgrades. Required retrofit measures will likely include all or some of the following:

- Upgrade the riveted connections to bolted connections.
- Strengthen the truss columns.
- Replace the tension braces with high-strength rods.
- Upgrade the foundation of the tower.

Figure 1: Water Tower

Figure 2:Example of Tower base connection: rivets, truss column, and tension rods[1]

Figure 3:Current condition of Water Tower structure

[1] *This photograph was taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and this photo has been determined to be relevant to this assessment.*

C LACO No. 1301 (Water Tower) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Water Tower (LACO 1301)

MGAC

Feasibility Study Cost Plan — Water Tower (LACO 1301)

			SF	$/SF	TOTAL $ x 1,000
B1			-	0.00	0
SUB-TOTAL BUILDING CONSTRUCTION			-	-	0
S1	Water Tower (LACO 1301)	incl		0.00	670
	Premium for enhanced sustainable site features				10
SUB-TOTAL SITEWORK					680
TOTAL BUILDING AND SITEWORK					**680**
Escalation to Midpoint (Jul 2021)		11.7%			79
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Preparation of Historical Building Report	N/A			-
	Design and Engineering Consultant Services	8.0%			61
	Project Management Consultant Services	3.0%			25
	FF & E	5.8%			49
	Taxes and Indirect Fees	1.0%			9
	Building Permit and Other Agency Fees	1.5%			14
	Owner Contingency/Construction Contingency	25.0%			229
Recommended Budget					***1,146***

MGAC

Feasibility Study Cost Plan — Water Tower (LACO 1301)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Water Tower (LACO 1301)				
Gross Site Area		SF		
Building footprint		SF		
Net Site Area		SF		
Other Site Construction				*525,000*
Water tower retrofit - upgrade riveted connection to bolted and upgrade foundations	1	LS	525,000.00	*525,000*
Alternate Cost Before Markups				**525,000**
Z10 Design Contingency	10.00%			52,500
Z11 General Requirements	4.00%			23,100
Z21 General Conditions	6.00%			36,036
Z22 Bonds & Insurance	1.50%			9,550
Z23 Contractor's Overhead, Profit & Fee	3.75%			24,232
Z30 See Overall Summary for Escalation	0.00%			
				670,417

D LACO No. 1301 (Water Tower) – Mothballing Report

Photo by Adrian Scott Fine/LA. Conservancy

MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

RANCHO LOS AMIGOS, SOUTH CAMPUS
Buildings 1300, 1301, and 1302
February 12, 2019

HISTORIC RESOURCES GROUP
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historicla.com

CONTENTS **PAGE**

1. **Introduction** 3
2. **Mothballing Checklist** 5
3. **As-found conditions** 15

APPENDICES 26

A. **Historic Building data**

B. **Selected drawings of site and buildings**

C. **Sharon Park, FAIA, Preservation Briefs No. 31, Mothballing Historic Buildings**

D. **Thomas E. Solon, AIA Emeritus, Security Panels for the Foster-Armstrong House**

MOTHBALLING PLAN FOR GENSLER & THE COUNTY OF LOS ANGELES

RANCHO LOS AMIGOS, SOUTH CAMPUS Buildings 1300, 1301, and 1302 February 12, 2019

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The property has been identified as a historic resource. However, it may remain vacant for an unspecified period of time. This plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short term goal, and not a long term building rehabilitation. Mothballing work requires monitoring and maintenance after the mothballing work is completed; all buildings require maintenance. Mothballing will not provide the longer life cycle performance of a rehabilitation project.

This is a planning document for the purpose of stabilizing and protecting buildings on the South Campus of Rancho Los Amigos. The plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

The appendices to this plan include historic data that describes the location, narrative history, and significance of the property. The appendices to this plan also include construction drawings dated 2011 from an unbuilt project that provide useful background information about the buildings. The buildings can be expected to have deteriorated and may have changed in minor respects since the 2011 project documentation and the 2017 historic assessment. The most notable damage is due to rain water because the roofing and roof decks and sheathing have failed in many locations.

No historic structure reports nor more current detailed descriptions and statements of significance and condition are available for the buildings. The objective is to stabilize and protect the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. Future assessment could provide additional information about the value and significance of specific features, materials, and finishes. The information available by field observation and in the appendices provide ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stablilize and protect existing materials features are (a) roofing materials and sheathing, (b) a corrugated metal shed addition, and (c) an open shed on the north side of the west wing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required. The added sheds are not significant additions, and could be removed as an option by the owner in the process of scoping and executing a mothballing project.

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This plan follows the direction provided by the document titled, "Preservation Briefs 31, Mothballing Historic Buildings, authored by Sharon C. Park, AIA (subsequently elevated to FAIA), and published by the National Park Service.

"When all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism. This process, known as mothballing, can be a necessary and effective means of protecting the building while planning the property's future, or raising money for a preservation, rehabilitation or restoration project. If a vacant property has been declared unsafe by building officials, stabilization and mothballing may be the only way to protect it from demolition."

The primary author of this report, Peyton Hall, FAIA, exceeds the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61) for architecture, historic architecture, and architectural history.

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Item #	Item	Recommendations
St-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	*The primary structure appears to be unreinforced brick masonry with ferrous metal and wood framed gable roofs, in fair to poor condition. There are many large window openings in masonry walls, which is a potentially weak condition when subjected to lateral seismic forces.* *The brick walls are saturated with moisture, and some mortar joints are deteriorated. A large volume of rain water was observed waterfalling into the building at multiple locations; therefore, the roof membrane is deteriorated or missing. There are holes in the roof decks and sheathing. It is possible that interim structural work is needed for the purpose of mothballing.* *The water storage tank and stack are tall structures, possibly with small foundations, that may be a potentially weak condition when subjected to vertical and lateral acceleration by seismic forces.* *Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations if need be for any further technical assessment for further action. It is noted that the objective is stabilization, not ultimate rehabilitation either to meet current regular building standards or alternative standards under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard is subject to being informed by a qualified engineer and meeting the owner's expectations.*
M-1	Is the roof watertight?	As noted in St-1, the roofing membrane and roof decks/sheathing are very badly deteriorated. The condition of the decks/sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. *Closing holes in the roof deck/sheathing, skylights, and roof monitors with clerestory windows, and installation of an effective roof membrane is the most important action required to mothball the building.*

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Item #	Item	Recommendations
		Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect, and/or licensed roofing contractor. Qualitatively, a bituminous base sheet, modified bituminous mineral-surfaced cap sheet, with prefinished metal eaves and gable drip flashing is an acceptable approach for this purpose. Flame-down applications are not recommended, but are an acceptable option if installed to manufacturer's recommendations and monitoring for potential fires caused by smoldering wood substrates and cavities. Cold application is preferred. Hot adhesive application is acceptable if the adhesive heater is no closer than 50 feet from the building; a temporary heat and blast barrier is recommended between the heater and buildings to deflect any accidental combustion and explosion of fuel tanks. *All necessary measures shall be taken to prevent impact and mechanical damage to the building structure and finishes during roof repairs. Scaffolding, and/or working from lifts over the roof are possible options as part of the means and methods to be developed by the builder if necessary to prevent damage.*
M-2	Do the gutters retain their proper pitch and are they clean?	The buildings were observed during very heavy rainfall. There is no effective conduction of water on the building, or off the building to adjacent grade or storm sewers. Rainwater flows into the building through holes in the roof. The finish grades near the exterior of the building are almost flat. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current season demonstrates that extremely heavy and frequent rainfall occurs. *Assess existing roof drainage configuration. In conjunction with a roofing project, provide a temporary metal drainage system that conducts rainwater to exterior grade. For a short term mothballing project, light gauge prefinished aluminum components are an acceptable to a more durable construction system. Provide rain leader extensions to take water away from the base of the building, and to adjacent street drainage curbs and gutters if practical.*
M-3	Are downspout joints intact?	Refer to M-2 above.

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Item #	Item	Recommendations
M-4	Are drains unobstructed?	Refer to M-2 above.
M-5	Are windows and doors and their frames in good condition?	The original windows and doors are largely still in place, constructed of ferrous metal and wood. Extant frames and sash are painted ferrous metal and wood. Conditions are fair and poor. Some windows are shut, with intact operating hardware; some glazing is broken or missing, and some sash is left open and may be damaged. Most window openings have at least exterior plywood board-ups, though some are loose or falling away. Many doors appear to have been previously replaced. Most doors are wood, including wood double French doors (swinging, divided light) that are consistent with the archival original construction drawings. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon. Omit the tromp l'oeil muntins shown in Solon's document. All wood and plywood components shall be primed and painted on all surfaces (i.e., "back-painted," front, rear, ends, edges) after being cut to size, and before assembly, such that there are no unpainted wood surfaces, including no hidden unpainted wood or plywood surfaces. This detail also provides for passive ventilation through screened louvers.*
M-6	Are masonry walls in good condition to seal out moisture?	Exterior walls unreinforced multi-wythe red clay brick masonry. Exterior paint is failing or missing. Some mortar joints are deteriorated and open. The walls are saturated with moisture entering from the exterior and draining down the walls from many holes in the roof, and may be subject to rising damp from standing water on adjacent interior floors. *The building is in direly poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some*

Item #	Item	Recommendations
		good purpose in protecting the walls and windows from water damage. Practically speaking, very short term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out. Pump out standing water at the spaces below grade near the east wall at the Power Plant. Dehumidifying equipment is not very effective in removing moisture from thick masonry walls, and not very practical as the interior spaces are not closed off from the exterior. Mechanical dehumidification can exacerbate damage caused by deposition of salts and minerals transported to the surface of bricks as moisture evaporates.* *After the dry out period, brush off loose salts and paint. Do not use pressurized water or any abrasive methods in any media to prepare the walls prior to repainting the exterior. Repaint exterior walls with an exterior paint that is compatible with the existing paint surface and has a permeability rating of 12 perms or much greater. The objective of a temporary coating is to protect the relatively soft brick surface, discourage absorption of water, and allow for moisture in the wall to continue to evaporate. A highly impermeable paint of 12 perms or less will hold moisture in the wall and exacerbate the damage caused by moisture to the brick and mortar.*
M-7	Is wood siding in good condition?	There appear to be metal and wood components on the mechanical tower, in fair to poor condition. *Design and engineer a framed shelter for the tower that deflects rain and solar radiation. As the objectives of mothballing are short term, the shelter can be lightly-framed wood and plywood with a nailed*

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Item #	Item	Recommendations
		membrane, subject to the recommendations of a structural engineer for stability and attachment to the existing roof deck and walls.
M-8	Is site properly graded for water run-off?	*Refer to M-2 above.*
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are a very few areas of weeds growing in the current rainy season. *Cut and remove cuttings from grass and weeds down to grade, and maintain at a close cut, or remove to bare soil. Yard maintenance does not need to be frequent, and can be in response to seasonal inspections.*
P-1	Have nests/pests been removed from the building's interior and eaves?	In the past, feral cats were observed in this area. Reportedly the cats are fed, but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. A life skunk was observed in the interior near the south wall of the power building. We did not observe nests and any other small mammals, birds, bees, or insects at the interior or eaves. As skunk odor was observed in Casa Consuelo two years ago, there is a resident population of adults and possibly juveniles. *Continue best practices for management of the feral cat population.* *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* *As noted in this Plan, seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building. Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.

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Item #	Item	Recommendations 10
		No work is recommended.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	We are not informed as to whether or not the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. *As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation, e.g., every 7 years, is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	*Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement, and to abate.*
H-1	Have the following been removed from the interior: trash, hazardous materials such as inflammable liquids, poisons, and paints and canned goods that could freeze and burst?	There are furnishings, miscellaneous items, and debris from the deterioration of interior finishes and failure of the building envelope. We did not observe any furnishing or items that appear to be of cultural or historic value except for the possible interest in the equipment in the machine shop space at the south end of the Power Plant. There is other large equipment that is not evaluated in the historic assessment, but which can be left in place during the mothballing period. *The County of Los Angeles may at their discretion consider having the furnishings and miscellaneous items observed by an archival, history, cultural, or museum staff person at RLA, or one of the County's cultural institutions.*
H-2	Is the interior broom-clean?	No. *After removing all items from the interior, remove building material debris (e.g., plaster, lath, paint chips), and sweep the floors broom-clean.*
H-3	Have furnishings been removed to a safe location?	*Refer to H-1 above.*
H-4	If furnishing are remaining in the building, are they properly	*Do not leave any furnishings in the building.*

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	protected from dust, pests, ultraviolet light, and other potentially harmful problems?	
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended.*
H-6	Is there a building file?	We were provided with documents about the property from which the appendices were selected. There may be additional building files that belong to the owner. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	Our access to the district and property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work, and secured the buildings after we left. The district perimeter is marked by tall woven

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		wire fences and locked gates. A uniformed Deputy Sheriff needed to be present to open a locked gate and verify our identities prior to walking or driving in the gate. The officer remained at post at the gate until we left the district. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction if need be, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entry, fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department.* *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at M-5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call, and is on the call list when fire, smoke, and security alarms are activated, and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*

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Item #	Item	Recommendations
S-6	Are the grounds being kept from becoming overgrown?	No; however, there is very little plant growth and very little debris on the grounds. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. *No action required.*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required.*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open. *No work is recommended.*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
MAINTENANCE CHECKLIST		

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Item #	Item	Recommendations 14
MC-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
MC-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
MC-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

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Image #	Description	Overview of general and typical as-found conditions January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
1	Shop, Laundry, Ice Plant and 1911 Addition Exterior; north elevation, west end, view south. Corrugated metal shed was added after the period of significance and is not a character-defining feature. Open shed addition after period of significance is not a character-defining space or feature. Paint failure, inadequate door and window board-ups.	
2	Shop, Laundry, Ice Plant and 1911 Addition Exterior; north elevation, east end, view south.. Paint failure, inadequate door and window board-ups. Open shed addition after period of significance is not a character-defining space or feature.	

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Image #	Description	Overview of general and typical as-found conditions January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
3	Power Plant Exterior; west elevation, view east. Paint failure, overgrown plants, inadequate window board-ups. Open shed addition after period of significance is not a character-defining space or feature.	
4	Power plant Exterior; north elevation, view southeast. Paint failure, inadequate window board-ups.	

Image #	Description	Overview of general and typical as-found conditions 17 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
5	Power plant Exterior; east elevation, west wing, view northwest. Paint failure, overgrown plants, inadequate window board-ups.	
6	Power plant Exterior; south elevation, east end, view north. Paint failure, inadequate door and window board-ups.	

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Image #	Description	Overview of general and typical as-found conditions January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
7	Shop, Laundry, Ice Plant and 1911 Addition Exterior; south elevation, center courtyard, view north. Paint failure, inadequate door and window board-ups.	
8	Shop, laundry, ice plant and 1911 addition Exterior; south elevation, west end, view northwest. Paint failure, inadequate door and window board-ups.	

Image #	Description	
9	Shop, laundry, ice plant and 1911 addition Exterior; south elevation, west end, view northeast. Paint failure, inadequate door and window board-ups.	
10	Shop, laundry, ice plant and 1911 addition Exterior; partial south and west elevation, view northeast. Paint failure, inadequate door and window board-ups.	

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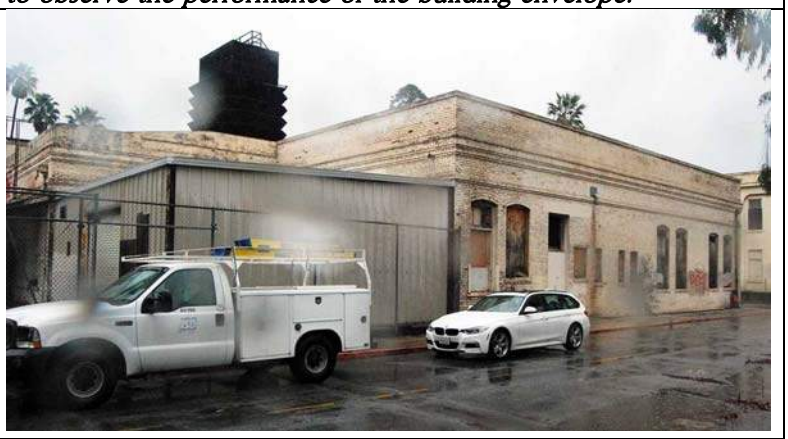
Image #	Description	Overview of general and typical as-found conditions 20 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
11	Shop, laundry, ice plant and 1911 addition Exterior; partial south and west elevation, view northeast. Paint failure, inadequate door and window board-ups Corrugated metal shed addition after period of significance and not a character-defining space or feature.	
12	Shop, laundry, ice plant and 1911 addition Exterior; partial north elevation at west end, view southwest. Paint failure, inadequate door and window board-ups Corrugated metal shed addition after period of significance is not a character-defining space or feature. Open shed addition after period of significance is not a character-defining space or feature.	

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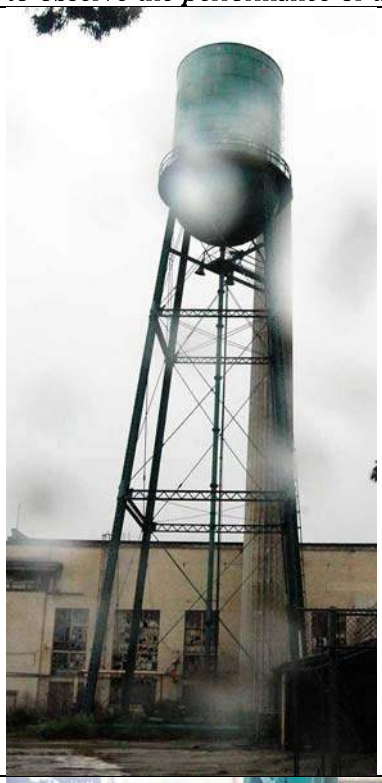
Image #	Description	Overview of general and typical as-found conditions 21 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
13	Water tower Exterior, view east. Failing paint and light corrosion of ferrous metal.	
14	Water tower Exterior, view east, detail of column and footing at northwest corner. Failing paint and light corrosion of ferrous metal.	

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Image #	Description	Overview of general and typical as-found conditions 22 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
15	Power plant Interior, space previously converted to machine shop use, south wall, view south southeast. Failed or missing roofing membrane and roof sheathing/deck; rainwater ponding inside building, paint failure, inadequate door and window board-ups.	
16	Power plant Interior, space previously converted to machine shop use, west wall, view west northwest. Failed or missing roofing membrane and roof sheathing/deck; rainwater ponding inside building, paint failure.	

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Image #	Description	Overview of general and typical as-found conditions 23 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
17	Shop, laundry, ice plant and 1911 addition Interior; metal frame and glazed skylight. Damaged frame, broken glass allows rainwater, birds, and small animals to enter building. Metal frame is from the period of period of significance and is a character-defining feature	
18	Power plant Interior; typical metal frame and glazed clerestory. Damaged frame, broken glass allows rainwater, birds, and small animals to enter building. Metal frame, sash, and operating hardware is from the period of period of significance and are character-defining features.	

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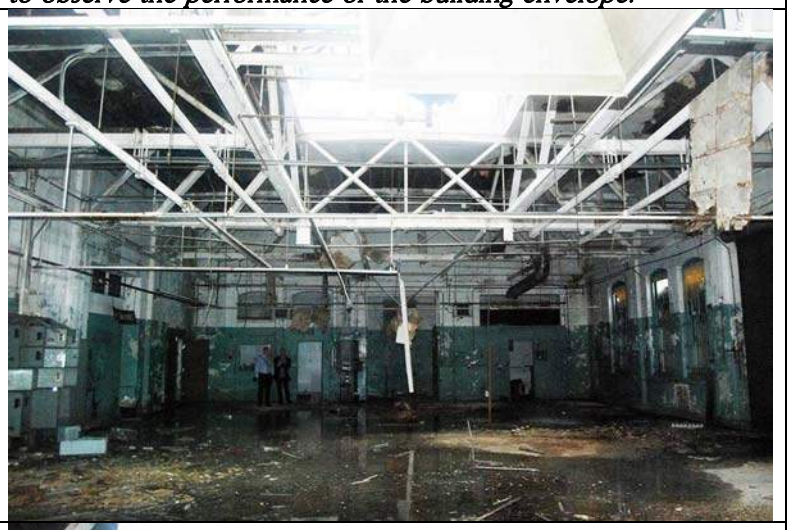
Image #	Description	Overview of general and typical as-found conditions 24 January 31, 2019 *The site visit occurred during heavy rainfall, a good opportunity to observe the performance of the building envelope.*
19	Shop, laundry, ice plant and 1911 addition Interior, east wall, view east. Failed or missing roofing membrane and roof sheathing/deck; rainwater ponding inside building, paint failure, inadequate door and window board-ups.	
20	Shop, laundry, ice plant and 1911 addition Interior, north wall, view north northeast. Failed or missing roofing membrane and roof sheathing/deck; rainwater ponding inside building, paint failure, inadequate door and window board-ups.	

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Image #	Description	
21	Shop, laundry, ice plant and 1911 addition Interior, typical wood window frame and double-hung sash with interior security bars. In general, window frames and sash, wood and metal, are from the period of significance. Significant features should be retained and protected in place.	
22	Interior; dining room, ceiling. Reinforced concrete roof deck system (pan joist) appears to be sound. Total failure of plaster and expanded metal lath due to expansive corrosion.	

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APPENDICES

A. **Historic Building data**

B. **Selected drawings of site and buildings**

C. **Sharon Park, FAIA, Preservation Briefs No. 31, Mothballing Historic Buildings**

D. **Thomas E. Solon, AIA Emeritus, Security Panels for the Foster-Armstrong House**

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1. Location map from historic assessment by ESA, 2017
2. Aerial view and district boundary by ESA, 2017
3. Historic contributors evaluation map by ESA, 2017
4. DPR record for subject buildings by Sapphos, 2008
5. DPR Primary Record for historic district by ESA, 2017
6. Historic assessment eligibility table by ESA, 2017
7. Historic assessment photos of subject buildings by ESA, 2017

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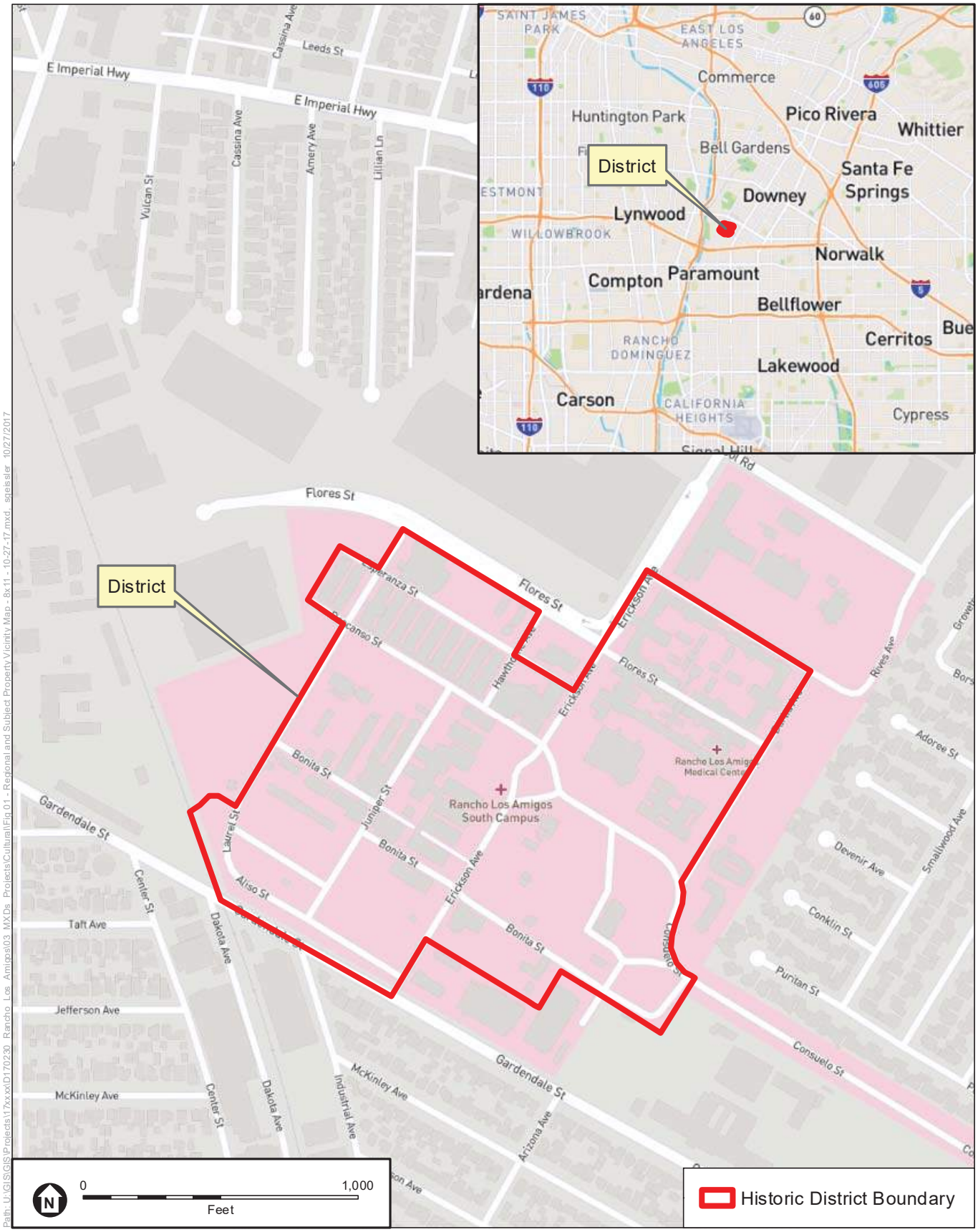

SOURCE: Open Street Map, 2017.

Rancho Los Amigos South Campus

Figure 1
Regional and Subject Property Vicinity Map

ESA

SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 2
Aerial Photograph of Subject Property and Vicinity

ESA

SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 35

Contributors and Non-Contributors Map (ESA, 2017)

ESA

***Recorded by:** *Rebecca L. Silva, Sapphos Environmental, Inc.* ***Date:** *June 2, 2008* ☐ **Continuation** ☒ **Update**

This is an update to two previous surveys:

1 **Resource Identifier:** *Rancho Los Amigos Medical Center* **CHR Status Code:** *2D2*
McAvoy, Christy J. 1994 Northridge Earthquake Project Review: Rancho Los Amigos Medical Center: Survey of Earthquake Damaged Properties for Purposes of Section 106 Review. Historic Resources Group. 26 July 1995

2. **Resource Identifier:** *LACO #1300 and 1302* **NR Status Code:** *3*
Post/Hazeltine Associates. Intensive Historic Structures/Sites Survey for the South Campus of Rancho Los Amigos Rehabilitation Center, Los Angeles County, California. 19 March 2004.

***P3a. Updated Description:**

An assemblage of three connected buildings, the Historic Power Plant (LACO Nos. 1300 & 1302) is located on the northwest corner of Erickson Avenue and Descanso Street. The building is composed of three cubic volumes (1909 Shop, Laundry, Ice Plant, the 1911 Addition, and 1925 Power Plant), which loosely define an L-shaped plan. The 1909 Shop, Laundry, Ice Plant and 1911 Addition, both one-story in height and designed in the Brick Vernacular style, comprise the longer, western leg of the "L." The 1925 Power Plant building, the equivalent of two-stories in height and designed in the Classical Revival style, forms the shorter leg. All three buildings are constructed of brick, which is currently painted. A freestanding concrete chimney, constructed in association with the 1925 Power Plant, is located within the courtyard formed by the L. Rising 140 feet, the chimney tapers toward the top and is finished with vertical fluting. Also in the courtyard, a steel water tower (LACO No. 1301) is documented on separate inventory form.

Flat roofs hidden by parapets top the 1909 and 1911 buildings. Steel-framed skylights illuminate the interior of each space. A circa 1933 wooden water cooling tower sits on the roof of the 1909 Shop, Laundry, Ice Plant.

(See Continuation Sheet 2 of 3.)

P5a. Photo or Drawing (**Photo required for buildings, structures, and objects.**)

P5b. Description of Photo: (**View, date, accession #**) *East and North Elevations, Facing Southwest, January 29, 2007*

***P6. Date Constructed/Age and Sources:** *1909 Shop, Laundry, Ice Plant, 1911 Addition, 1925 Power Plant, according to historic aerial photographs, and Fliedner, Colleen Adair. 1990. Centennial, Rancho Los Amigos Medical Center, 1888-1988. Downey, California: Rancho Los Amigos Medical Center.*

***P8. Recorded by:**
Rebecca L. Silva
Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, California 91107

***P9. Date recorded:**
June 2, 2008

***P10. Survey Type:** (Describe)
Intensive Survey Update

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") *Sapphos Environmental, Inc., June 2010. Rancho Los Amigos Historic District Update Report, Prepared for the County of Los Angeles.*

***P3a. Updated Description (continued):**

Both the parapets and a frieze are defined by raised and corbelled brick courses. Fenestration on these two buildings consists primarily of single and paired, wood- framed, six-over-six double hung sash windows. Flat-headed, the windows are set into segmental arched openings, with lintels defined by three rows of header bricks and sills by single rows of raised bricks. Original entries located on the south elevation also have segmented arched heads and contain single and double wood doors topped by transoms. A flat-headed metal rollup door on the south elevation of the 1909 wing does not appear to be original. The secondary north elevation of these two buildings are spanned by an attached canopy that shades a band of windows. On the northwest corner, a non-original steel shed has been attached to the complex.

Symmetry characterizes the Classical Revival design of the 1925 Power Plant, with nearly identical three-bay facades facing north and south and thirteen bays spanning the east (Erickson Avenue) elevation. Wrapped by a continuous parapet, the flat roof is bisected by a monitor roof wrapped in a continuous band of steel-framed multi-light windows. Stepped parapets terminate the north and south ends of the monitor. Beneath the parapets, a projecting and tops a molded frieze. The central three bays of the east elevation are given a temple-front treatment, with four raised pilasters carrying a pediment whose tympanum is incised with the year of construction, 1925. Double-door entries are located in the central bays on the east, north and south elevations. The remaining bays are occupied by large, flat-headed, multi-light industrial sash windows. The west elevation is partially adjoined by the 1909 Shop, Laundry, Ice Plant; openings on this elevation are limited to four large, steel-framed multi-light windows that appear at the northern end of the wing, an additional window set high-up at the south end of the wing, and two double doors onto the courtyard.

Vestiges of landscaping remain along the east elevation and include strategically placed palm trees. The other street elevations are set directly on the sidewalk, with no planting areas. Weeds and bushes, by design or by accident, are located near the base of the water tower in the paved courtyard. The property is in deteriorated condition.

B6. Updated Construction History: (Construction date, alterations, and date of alterations)

No building permits were found for this building. Only the architectural drawings for the 1925 Power Plant building were located. Alterations and alteration dates as they can be derived from examination of historic photographs and architectural drawings include: the removal or breakage of original windows; the replacement of original wood doors with metal doors; the addition of a metal clad enclosure on the northwest corner of the 1911 Addition; and the addition of an awning attached to the north elevation (rear) of the 1909 Shop, Laundry, Ice Plant.

***B10. Updated Significance:**

This property was determined eligible for listing in the National Register of Historic Places under Criterion A as a contributor to the Rancho Los Amigos Historic District on September 30, 1996. It is therefore also listed in the California Register of Historical Resources under Criterion 1. The current study confirmed the significance of Historic Power Plant (LACO Nos. 1300 and 1302) as a contributor to the Historic District under Criterion A/1,association with events that have made a significant contribution to the broad patterns of local or regional history. The property is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The buildings were erected from 1909 to 1925 to provide power for the medical and agricultural activities of the Los Angeles County Poor Farm. The original 1909 Shop, Laundry, Ice Plant was an extension of the City of Downey Power Plant and was constructed and opened at the same time. The evolution and expansion of the facility are indicative of the growth of the Los Angeles County Poor Farm over time and its increased need for more self-sustaining power.

Exterior alterations to the buildings are relatively minor. An interpretation of the Brick Vernacular and Classical Revival Styles, the Historic Power Plant retains integrity of location, feeling, association, design, materials, and workmanship. Most of its character-defining features are intact, including: brick construction and architectural trim; flat roofs with encircling parapets; segmental arched openings; Classical Revival treatment of the north, south, and east elevations of the 1925 building; rooftop features including skylights, cooling tower, and monitor; original double-hung and industrial sash windows; original wood doors and transoms (where extant); and freestanding chimney.

(See Continuation Sheet 3 of 3.)

***B10. Updated Significance (continued):**.

History:

Established in 1888, the Los Angeles County Poor Farm is an important institution in the public welfare and health care history of the County of Los Angeles. The County Poor Farm was built to provide a publicly-funded facility to house indigents with the Los Angeles County hospital system. In its role as a farm, the County Poor Farm supplied agricultural products to other Los Angeles County institutional facilities during the first half of the 20th century. Beginning in 1907 with the construction of the psychiatric wards, the County Poor Farm began to transition away from the provision of indigent care and focus instead on the treatment of patients with chronic medical and/or psychiatric conditions. By 1952, the former County Poor Farm, renamed Rancho Los Amigos in 1932, had evolved into a medical hospital that specialized in the rehabilitative care of persons with physical disabilities, and was especially associated with the treatment of polio. By the end of 20th century, the Historic District had been largely vacated (except for storage), in favor of newer hospital buildings built north of the Historic District.

Several buildings on the South Campus as it exists today date back to the first decade of the 20th century. The first portion of the Power Plant Complex, built in 1909, was among the numerous buildings constructed during that period. A one-story brick building displaying the utilitarian vernacular typical of commercial and industrial architecture of the time, the original powerhouse comprises the east wing of LACO No. 1300. Two years later, in 1911, a one-story addition in the same brick vernacular style was constructed west of the original powerhouse; this is the west wing of LACO No. 1302. The addition housed the campus laundry. A freestanding Water Tower (LACO No. 1301) was erected north of the building in 1913; the tower and tank of are of steel construction and have a capacity of 100,000 gallons.

The County Poor Farm continued to expand, with new buildings that marked a shift in its mission from poor farm to hospital, during the 1910s and 1920s. By 1925, additional power generation capabilities were needed, and a new, larger power plant was built to accommodate expected growth over the next quarter century. Two-stories in height, with monumental Classical Revival detailing, the new building was attached to the east end of the 1909 Original Building, which then was converted into an ice house and machine shop. The freestanding Chimney, located next to the Water Tower, was built concurrently with the new power plant. Sometime between 1933 and 1936, a large wooden Water Cooling Tower was built on the roof of the ice house. In 1966, the steam transfer building (LACO No. 5548) was constructed north of the Complex, which, as in most buildings on the South Campus by that time, was relegated to a secondary role of support facility and storage.

***Resource Name or #** (Assigned by recorder) *Water Tower (LACO NO. 1301)*

***Recorded by:** *Rebecca L. Silva, Sapphos Environmental, Inc.* ***Date:** *June 2, 2008* ☐ **Continuation** ☒ **Update**

This is an update to two previous surveys:

1 **Resource Identifier:** *Rancho Los Amigos Medical Center* **CHR Status Code:** *2D2*
McAvoy, Christy J. 1994 Northridge Earthquake Project Review: Rancho Los Amigos Medical Center: Survey of Earthquake Damaged Properties for Purposes of Section 106 Review. Historic Resources Group. 26 July 1995

2. **Resource Identifier:** *LACO #1301* **NR Status Code:** *3*
Post/Hazeltine Associates. Intensive Historic Structures/Sites Survey for the South Campus of Rancho Los Amigos Rehabilitation Center, Los Angeles County, California. 19 March 2004.

***P3a. Updated Description:**

One of three vertical projections that characterize the Historic Power Plant complex, the Water Tower (LACO No.1301) is located in the courtyard formed by the 1909-1911 Shop, Laundry, and Ice Plant (LACO No. 1302) and the 1925 Power Plant (LACO No. 1300). The Water Tower is a freestanding steel trellis structure, standing 125 feet tall and crowned by a 100,000-gallon capacity, bullet shaped, metal holding tank. Currently not in use, the structure is in fair condition.

(See Continuation Sheet 2 of 2.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) *View of Water Tower from the south, January 29. 2007*

***P6. Date Constructed/Age and Sources:** *Circa 1913, according to historic aerial photographs, and Fliedner, Colleen Adair. 1990. Centennial, Rancho Los Amigos Medical Center, 1888-1988. Downey, California: Rancho Los Amigos Medical Center.*

***P8. Recorded by:**
Rebecca L. Silva
Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, California 91107

***P9. Date recorded:**
June 2, 2008

***P10. Survey Type:** (Describe)
Intensive Survey Update

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") *Sapphos Environmental, Inc., June 2010. Rancho Los Amigos Historic District Update Report, Prepared for the County of Los Angeles.*

***Resource Name or #** (Assigned by recorder) *Water Tower (LACO NO. 1301)*

***Recorded by:** *Rebecca L. Silva, Sapphos Environmental Inc.* ***Date:** *June 2, 2008* ☐ **Continuation** ☒ **Update**

***B6. Updated Construction History:** (Construction date, alterations, and date of alterations)

No building permits or architectural drawings were found for this structure. Comparison of historic photographs with the current appearance of the Water Tower suggest that there have not been any alterations to the structure.

***B10. Updated Significance:**

This property was determined eligible for listing in the National Register of Historic Places under Criterion A as a contributor to the Rancho Los Amigos Historic District on September 30, 1996. It is therefore also listed in the California Register of Historical Resources under Criterion 1. The current study confirmed the significance of the Water Tower (LACO No. 1301) as a contributor to the Historic District under Criterion A/1,association with events that have made a significant contribution to the broad patterns of local or regional history. The property is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The structure was erected in 1933 to provide a water holding tank for the Power Plant of the Los Angeles County Poor Farm. The structure continued to serve in that capacity until the Power Plant was no longer operating. Visible from the surrounding community, the Water Tower also serves a placemarker in the urban landscape.

The Water Tower has no alterations and still reflects its period of construction. It retains integrity of location, feeling, association, design, materials, and workmanship. The structure has retained the character-defining features of a water holding tank, which include the bullet-shaped tank and freestanding steel trellis support structure. Its setting has been altered through the deterioration of the Historic Power Plant and the surrounding landscape.

History:

Established in 1888, the Los Angeles County Poor Farm is an important institution in the public welfare and health care history of the County of Los Angeles. The County Poor Farm was built to provide a publicly-funded facility to house indigents with the Los Angeles County hospital system. In its role as a farm, the County Poor Farm supplied agricultural products to other Los Angeles County institutional facilities during the first half of the 20th century. Beginning in 1907 with the construction of the psychiatric wards, the County Poor Farm began to transition away from the provision of indigent care and focus instead on the treatment of patients with chronic medical and/or psychiatric conditions. By 1952, the former County Poor Farm, renamed Rancho Los Amigos in 1932, had evolved into a medical hospital that specialized in the rehabilitative care of persons with physical disabilities, and was especially associated with the treatment of polio. By the end of 20th century, the Historic District had been largely vacated (except for storage), in favor of newer hospital buildings built north of the Historic District.

State of California □ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #19-189330_
HRI #
Trinomial
NRHP Status Code
Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 **of** 84 ***Resource Name or #:** (Assigned by recorder) Rancho Los Amigos Historic District
P1. Other Identifier: Los Angeles County Farm, Rancho Los Amigos Medical Center
***P2. Location:** □ **Not for Publication** □ **Unrestricted**
***a. County** Los Angeles County **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** South Gate **Date** _____ **T** 3S ; **R** 12W ; __ □ **of** __ □ **of Sec** __; ____**B.M.**
c. Address 7601 E Imperial Highway City Downey Zip _____
d. UTM: (Give more than one for large and/or linear resources) Zone __, _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
See District Record.

***P3b. Resource Attributes:** (List attributes and codes) HP2, HP4, HP9, HP11, HP12, HP13, HP16, HP28, HP33, HP41,
***P4. Resources Present:**
□ Building □ Structure □ Object □ Site ☒ District □ Element of District
☒ Other (Isolates, etc.)
P5b. Description of Photo: (view, date, accession #) Primary elevation of Casa Consuelo (women's ward) located near the district's eastern boundary, view to the west, 2017.

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

***P6. Date Constructed/Age and Source:** ☒ Historic □ Prehistoric □ Both
1888-1952
***P7. Owner and Address:**
Los Angeles County
500 W. Temple Street
Los Angeles, CA 90012
***P8. Recorded by:** (Name, affiliation, and address) Margarita Jerabek, Ph.D.
Environmental Science Associates
626 Wilshire Blvd. #1100
Los Angeles, CA 90017
***P9. Date Recorded:** 9/22/2017
***P10. Survey Type:** (Describe)
Intensive pedestrian
***P11. Report Citation**: (Cite survey report and other sources, or enter "none.")
Margarita Jerabek, Ph.D., et al., ESA, *Rancho los Amigos South Campus, County of Los Angeles, City of Downey, California: Historic District Analysis Report.* Prepared for the County of Los Angeles. Report currently in preparation

***Attachments:** □NONE ☒Location 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) Rancho Los Amigos Historic District

D1. Historic Name: Los Angeles County Farm D2. Common Name: Rancho Los Amigos Medical Center

*D3. Detailed Description (Discuss overall coherence of the district, its setting, visual characteristics, and minor features. List all elements of district.): The Rancho Los Amigos Historic District is an institutional district located in Los Angeles County, in the southwest portion of the town of Downey. The district contains 108 buildings, structures, and features. Development in the district is primarily institutional, containing mostly one- and two story patient wards, surrounded by support and administrative facilities. While the property first began operating as a poor farm in 1888, the majority of the buildings that remain on the property were constructed between 1907 and 1932 and were largely designed in the Renaissance Revival style and brick vernacular, although the district also exhibits examples of Craftsman, Neoclassical Revival, Spanish Colonial Revival, and modest utilitarian buildings. Of the 108 buildings, structures, and features, 62 are contributors to the district and 46 are non-contributors due to extensive alterations or construction outside the period of significance. The contributing buildings represent seven different building types including Administration and Staff Buildings, Patient Wards, Dining and Social Facilities, Utilities, Agricultural and Occupational Therapy Facilities, Maintenance and Support Buildings, and Landscape Features. The district occupies flat terrain with streets generally arranged in a grid pattern. Streets within the district include Consuelo Street, Bonita Street, Descanso Street, Esperanza Street, and Flores Street. The streets feature concrete curbs and sidewalks with landscaped parkways and original lampposts. A landscaped traffic circle occupies the intersection of Consuelo Street, and Erickson Avenue. (See Continuation Sheets)

*D4. Boundary Description (Describe limits of district and attach map showing boundary and district elements.): The district is bounded by Golondrinas Street, Erickson Avenue, and Flores Street to the north, Dahlia Avenue, Consuelo Street, and Bonita Street to the east, Bonita Street, Erickson Avenue, and Aliso Street to the south, and Laurel Street to the west.

*D5. Boundary Justification: it is recommended that the District's boundary be expanded near the southeast corner to include the entirety of the Site Plan, which was overlooked by previous evaluations. The new District boundary encompasses additional portions of Consuelo Street, Bonita Street, and Dalia Avenue and the associated landscape areas east of the Administration Building (LACO No. 1100). These elements of Rancho Los Amigos' site plan contribute to the District's character and setting and continue to exhibit a high level of integrity from the period of significance. The new District boundary follows the natural contours of the landscape and would contain the contiguous grouping of 62 buildings and features contributing to the district's significant association with healthcare in Los Angeles County during the late nineteenth and early twentieth centuries.

D6. Significance: Theme Public Health; Housing the Poor in California Area Los Angeles County
Period of Significance 1888-1952 Applicable Criteria National Register Criteria A and C, California Register Criterion 1, and Los Angeles County Criteria 1 and 5
(Discuss district's importance in terms of its historical context as defined by theme, period of significance, and geographic scope. Also address the integrity of the district as a whole.)

The Rancho Los Amigos South Campus was first developed by the County of Los Angeles in 1888. Nearly thirty years earlier, the State of California's legislature enacted requirements that county governments should perform all acts necessary to the county welfare. This decision eventually led to the California "Poor Law of 1855," which made the care of the aged and needy the responsibility of local governments. Los Angeles County's obligation to provide for the poor and its growing indigent population resulted in significant overcrowding of the County Hospital. In 1888, the County opened a poor farm on the subject property, near the outskirts of the newly established town of Downey. Initially, the poor farm housed the elderly or those suffering minor illnesses and physical disabilities, relieving the overcrowded County Hospital. By the late nineteenth century, it had become common place for county governments throughout the country to operate almshouses, poorhouses, or poor farms. The concept of the almshouse, dating back to the early history of the British Colonies, had changed very little up until the late nineteenth century. (See Continuation Sheets.)

*D7. References (Give full citations including the names and addresses of any informants, where possible.):
(See continuation sheets.)

*D8. Evaluator: Margarita Jerabek, et al, ESA Date: 9/22/2017

Affiliation and Address: ESA, 626 Wilshire Blvd. #1100, Los Angeles, CA 90017

D4. Description Continued:

The South Campus achieved its present appearance during the Development of Rancho Los Amigos Era (1907-1932), which began with the construction of the first patient ward (LACO No. 1205) in 1907 on the east side of Erickson Avenue; this signified the start of the Los Angeles County Poor Farm's transition to a long-term care medical facility. In 1913, in response to growing utility needs, the Water Tower (LACO No. 1301) was erected. It was not until 1925, however, that the current Power Plant was erected (LACO No. 1300).

Three major groupings of patient wards were created on the subject property. Each grouping contained wards featuring identical or very similar designs. The first grouping, comprised of four U-shaped psychiatric wards, was established at the northeast corner of the subject property, beginning with the erection, as mentioned above, of LACO No. 1205 (Men's Psychiatric Ward). LACO No. 1205 originally featured a rectangular plan; in 1909, however, the north and south wings were added, altering its original footprint to a U-shape. In 1916, the north and south wings were further elongated; in the process, each wing received a two-story addition (the second story served to house attendants) and a one-story addition (additional ward space). A cafeteria addition was also made to the center of LACO No. 1205 in 1916. The new U-shape of LACO No. 1205 was replicated three additional times on the subject property. In 1919, LACO No. 1203 (Women's Psychiatric Ward), a smaller U-shaped ward, was erected immediately to the south of LACO No. 1205. In 1924, two additional wards mirroring the plans of LACO Nos. 1205 and 1203 were added, completing the grouping: LACO No. 1204 (Men's Psychiatric Ward) and LACO No. 1204 (Women's Psychiatric Ward).

The second grouping, consisting of five identical two-story general wards, was established on the west side of Erickson Avenue, just north of its southern terminus, beginning with the construction of LACO Nos. 1184 and 1185 in 1913. LACO No. 1186 (built in 1916), LACO No. 1187 (built in 1926), and LACO No. 1188 (built in 1928) were subsequently added to the south, completing the row of wards.

Finally, the third grouping, comprised of thirteen patient wards designed as cottages, each with a similar design. The grouping is situated on the north side of Descanso Street, at the northwestern corner of the subject property. This grouping included nine patient wards on the east side of Laurel Street, connected by a long verandah along their primary (south) elevations, and four additional patient wards on the west side of Laurel Street, also unified by a verandah fronting their primary (south) elevations. The patient wards were constructed in three phases. The first phase included the construction of LACO Nos. 1189, 1190, 1191, and 1192 in 1923. During the second phase in 1926, LACO Nos. 1193, 1194, and 1195 were built. Finally, in 1928, as part of the third phase, LACO Nos. 1196, 1197, 1198, and 1199 were added. LACO Nos. 1200 and 1201 were also erected during the late 1920s at the end (east side) of the row of patient wards; however, they were demolished between 1994 and 2003 according to aerial photographs.

In response to the growing number of female patients, a women's ward was constructed at an unknown date before 1926, based upon an aerial photograph, directly to the south of LACO No. 1203. This ward was demolished between 1963 and 1974, according to aerial photographs. Another women's ward, LACO No. 1238 (Casa Consuelo), was designed by architect Karl Wilhelm Muck and constructed in 1930 to the south of LACO No. 1202 (Women's Psychiatric Ward).

In 1907, a single-family residence designed by architect George Low was erected in the area below LACO No. 1205, on the south side of Consuelo Street, for the Superintendent and his family: LACO No. 1101 (Harriman/Superintendent's House). William R. Harriman, who served as Superintendent from 1915 to 1952, took up residence there. During the Development of Rancho Los Amigos Era (1907-1932), the subject property's administrative center shifted to the vicinity of LACO No. 1101, on the south side of Consuelo Street. The demolition of the original Office Building on the subject property, as described earlier, coincided with the construction of a new administration building overlooking Consuelo Street in 1926: LACO No. 1100 (Administration/Safety Police Building).

In 1908, a chapel (LACO No. 1254) designed by architectural firm Hudson & Munsell was constructed on the east side of Erickson Ave, north of LACO No. 1101 and directly to the south of LACO No. 1205. In 1919, LACO No. 1254 was relocated further to the south to make way for LACO No. 1203 (Women's Psychiatric Ward). Following the erection of the chapel, several more social, as well as dining, facilities were constructed on the subject property for patient use. In 1912, just south of the Poor Farm's original core, the Commissary and Receiving Room (LACO No. 1263) was built; the following year, the Dining Room, Kitchen, and Staff Room (LACO No. 1262) designed by architectural firm Hudson & Munsell was attached to it (LACO No. 1263 underwent several additions until 1926 when it attained its current appearance). In 1928, Amigos Hall (LACO No. 1266), designed by architect Karl Wilhelm Muck, was built just north of the original poultry yards. During the same year, the Auditorium (LACO No. 1261), designed by architect Karl Wilhelm Muck, was erected on the site which the original Dining Hall (Refectory) formerly occupied. Finally, in 1932, Bonita Hall (LACO No. 1264), designed by architect Edward C. N. Brett, was added just south of LACO No. 1262.

The subject property's agricultural functions continued through the 1920s, as marked by the construction of the Broder House/Vivarium (LACO No. 1335) in 1929 in the poultry yard established at the southeast corner of the subject property. In 1923, horse stables (LACO No. 1283) designed by architect George Low were erected on the east side of Erickson Avenue, just north of that street's south end. After the Long Beach earthquake of 1933, LACO No. 1283 (Trunk Storage), which was extensively damaged, underwent substantial alteration, with the removal of its second story. In the 1920s, the area to the west of Juniper Street was improved with several buildings and structures associated with occupational therapy. For example, in 1925, the Work Preparation Center (LACO No. 1207) was constructed immediately to the west of LACO No. 1262 (Dining Room, Kitchen, Staff Room).

Whereas William R. Harriman resided near the new administration center along Consuelo Street, staff were quartered at the northwest corner of the subject property. By 1926, according to an aerial photograph, several staff cottages occupied this area. One staff housing block was situated in the area presently bound by Erickson Avenue to the east, Hawthorne Avenue to the west, and Descanso Street to the south. This block was improved with fifteen staff cottages (three duplexes and twelve single-family dwellings) set behind landscaped front yards and arranged in two rows; eight overlooked Erickson Avenue while seven fronted Hawthorne Avenue. A second staff housing block sat directly to the west of the aforementioned block, occupying the area at the southeast corner of Hawthorne Avenue and Flores Street. This second block consisted of four staff cottages designed by Parker Orasmus Wright, Jr., each containing four staff living units. In 1927, the Kitchen and Dining Building (LACO No. 1295), intended for staff, was constructed to the east of the second staff housing block. Of all the staff cottages, only two remain on the subject property: LACO Nos. 1121 (built in 1921) and 1123 (built in 1924). The other staff cottages were gradually demolished after 1963, according to aerial photographs.

Under the direction of Harriman, the Los Angeles County Poor Farm changed its name to Rancho Los Amigos in 1932. During the 1920s, Erickson Avenue became the primary entry to the South Campus due to

its connection with Imperial Highway to the north, a major east-west transportation corridor in the surrounding area.

By 1933, Rancho Los Amigos had completed its transition from a poor farm to a long-term care medical facility under the continued direction of William R. Harriman, and was fully developed. There was very little site development between 1933 and 1952, with only a few buildings erected during this time, including the Lumber Shed (LACO No. 954), Landscape Office (LACO No. 1357), and Post Office (LACO No. 2677).

CONTRIBUTING BUILDINGS AND FEATURES

LACO No.	Building Name	P-Number	Date of Construction
LACO No. 1100	Administration/Safety Police Building	19-189333	1926
LACO No. 1121	Staff Cottage	19-189335	1921
LACO No. 1123	Staff Cottage	19-189336	1924
LACO No. 1137	Dairyman's House	19-189337	1907
LACO No. 1179	Dairyman's Garage	19-189340	1926
LACO No. 2677	Post Office	-	1949
LACO No. 1205	Men's Psychiatric Ward	19-189360	1907
LACO No. 1184	General Ward 30	19-189341	1913
LACO No. 1185	General Ward 40	19-189342	1913
LACO No. 1186	General Ward 50	19-189343	1916
LACO No. 1203	Women's Psychiatric Ward	19-189359	1919
LACO No. 1260	Bathhouse and Ward	19-189377	1922
LACO No. 1187	General Ward 60	19-189344	1926
LACO No. 1238	Casa Consuelo	19-189362	1930
LACO No. 1204	Men's Psychiatric Ward	19-189360	1924
LACO No. 1202	Women's Psychiatric Ward	19-189359	1924
LACO No. 1188	General Ward 70	19-189345	1928
LACO No. 1244	Toilet Room	19-189368	1916
LACO No. 1242	Toilet Building	19-189366	1920
LACO No. 1247	Toilet Building	19-189371	1925
LACO No. 1256	Toilet Building	19-189375	1925
LACO No. 1239	Toilet Building	19-189363	1930
LACO No. 1241	Linen Room	19-189365	1932
LACO No. 1189	Patient Ward 201	19-189346	1923
LACO No. 1190	Patient Ward 202	19-189347	1923
LACO No. 1191	Patient Ward 203	19-189348	1923
LACO No. 1192	Patient Ward 204	19-189349	1923
LACO No. 1193	Patient Ward 205	19-189350	1926
LACO No. 1194	Patient Ward 206	19-189351	1926
LACO No. 1195	Patient Ward 207	19-189352	1926
LACO No. 1196	Patient Ward 208	19-189353	1928
LACO No. 1197	Patient Ward 209	19-189354	1928
LACO No. 1198	Patient Ward 210	19-189355	1928
LACO No. 1199	Patient Ward 211	19-189356	1928
LACO No. 1263	Commissary and Receiving Room	19-189379	1912
LACO No. 1262	Dining Room, Kitchen, Staff Room	19-189379	1913-1926
LACO No. 1261	Auditorium	19-189378	1928
LACO No. 1312	Aviary	19-189397	1888 (Relocated c. 1924)
LACO No. 1254	Chapel/Computer Center	19-189374	1908
LACO No. 1295	Kitchen and Dining Building	19-189394	1927
LACO No. 1264	Bonita Hall	19-189380	1932
LACO No. 1301	Water Tower	19-189396	1913
LACO No. 1302	Shop, Laundry, Ice Plant	19-189395	1909-1911
LACO No. 1300	Power Plant	19-189395	1925
LACO No. 1207	Work Preparation Center	19-189361	1925*
LACO No. 1283	Trunk Storage	19-189391	1923
LACO No. 1335	Brooder House/Vivarium Annex	19-189400	1929
LACO No. 1276	Lock Shop	19-189386	1913
LACO No. 1275	Workshop	19-189385	1917
LACO No. 1278	Garage and Storage	19-189388	1924

LACO No. 1277	Garage	19-189387	1925*
LACO No. 1279	Garage	19-189389	1925*
LACO No. 1356	Tool House	19-189402	1926
LACO No. 1280	Garage/Storage	19-189390	1928
LACO No. 1268	Storage	19-189382	1932
LACO No. 1270	Garage	19-189383	1932
LACO No. 1357	Landscape Office	19-189403	1938
LACO No. 954	Lumber Shed	19-189332	1942
LACO No. 3348	Garbage Can Room	-	1951
LACO No. 1265	Shelter	19-189381	c. 1933*
None	Moreton Bay Fig Tree		c. 1900*
None	Site Plan		1888+

Notes:

*Date of construction is unclear

NON-CONTRIBUTING BUILDINGS AND FEATURES

LACO No.	Building Name	P-Number	Date of Construction
LACO No. 1101	Harriman/ Superintendent's House	19-189334	1915
LACO No. 1177	Superintendent's Garage	19-189338	1917
LACO No. 1178	Superintendent's Shed	19-189339	c.1917-1922
LACO No. 1245	Linen Room/Snack Bar No. 3	19-189369	1932
LACO No. 2434	Shed/Men's Gymnasium	-	1949*
LACO No. 2435	Patient Recreation Shed	-	1949
LACO No. 2436	Classroom Hut/Shed	-	1949
LACO No. 1266	Amigos Hall	-	1928
LACO No. 3592	Chapel	-	1953
LACO No. 1292	Pump House	-	1932
LACO No. 5548	Steam Plant	-	1966
LACO No. 5513	Electrical Station 18	-	Unknown
LACO No. 5793	Electrical Distribution Panel	-	Unknown
LACO No. 5798	Electrical Station 16	-	Unknown
LACO No. 5799	Electrical Station 4C	-	Unknown
LACO No. 5801	Generator House	-	Unknown
LACO No. 6223	Electrical Station	-	Unknown
LACO No. 6225	Electrical Station	-	Unknown
LACO No. 6407	Unknown	-	Unknown
LACO No. 1163	Generator House	-	Unknown
LACO No. 5547	200,000 Gallon Tank	-	1966
LACO No. 1284	Grain Tank	-	Unknown
LACO No. 1373	Grain Tank	-	Unknown
LACO No. 1374	Grain Tank	-	Unknown
LACO No. 1286	Garage/Storage	19-189392	1920
LACO No. 1464	Shed	-	1945*
LACO No. 2437	Metal Shed	-	1949
LACO No. 1287	Oil and Storage	19-189393	1909
LACO No. 1267	Transportation Office	-	1930
LACO No. 1259	Wheel Chair Repair	19-189376	1932
LACO No. 2492	Toilet Room	-	1948
LACO No. 3390	Prosthetic Shop	-	1953
LACO No. 3820	Loading Dock	-	1954
LACO No. 4121	Garage	19-189404	Post 1952*
LACO No. 1379	Garage	19-189404	Post 1952*
LACO No. 4118	Garage	19-189405	Post 1965
LACO No. 3368	Shed	-	Unknown
LACO No. 2494	Shed	-	Unknown*
LACO No. 1353	Greenhouse	-	Unknown*
LACO No. 1251	Open Shelter	19-189373	1916*
LACO No. 1243	Open Shelter	19-189367	1916*
LACO No. 1240	Shelter	19-189364	1930*
LACO No. 1246	Canopy	19-189370	1930*
LACO No. 1290	Shelter	-	1952*
LACO No. 3021	Bus Stop	-	Unknown

LACO No. 3022	Bus Stop	-	Unknown
LACO No. 7000	Butler Building	-	Unknown

Notes:

*Date of construction is unclear

D6. Significance Continued:

When the Los Angeles County Poor Farm opened, advancements in medicine and new laws governing the treatment of the sick and old aged, were beginning to result in significant changes to almshouses throughout the country. Development on the South Campus from its inception in 1888 as a poor farm to the subdivision of its former agricultural fields in the 1950s, reflects the changing attitude toward healthcare in Los Angeles County as well as the evolving medical trends in the United States and State of California. Initially, labor on the poor farm was intended to expose inmates (patients) to the medicinal qualities of California's mild climate. Produce from the agricultural programs was used to feed the inmate population, giving the poor farm the add added benefit of self-sustainability. Overtime, the agricultural fields were replaced with new patient wards, administration buildings, utilities, and maintenance buildings, while healing work in the fields was replaced by occupational therapy programs in workshops.

The history of the Los Angeles County Poor Farm and its evolution into a long-term healthcare facility (Rancho Los Amigos) during the late nineteenth and early twentieth century reflect the broader trends in medical history across the United States. Furthermore, the property's development over time illustrates the changing approaches healthcare and treatment of the indigent population in Los Angeles County. The South Campus of Rancho Los Amigos appears have a significant association with the broad patterns of our history and appears eligible as a historic district under the National Register Criterion A, California Register Criterion 1 and Los Angeles County Criterion 1.

National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation, identifies historic districts under Criterion C as "a significant and distinguishable entity whose components may lack individual distinction." The South Campus appears to be a significant entity (as previously discussed under Criteria A/1) with multiple components, many of which lack individual distinction. Therefore, the South Campus of Rancho Los Amigos does appear significant as historic district under National Register Criterion C.

In addition to being eligible under Los Angeles County Criterion 1, the District is eligible under Los Angeles County Criterion 5, which recognizes historic resources that have been formally listed or found eligible for listing on the National Register and/or California Register. The Rancho Los Amigos Historic District was formally listed on the California Register by the Keeper and determined eligible for the National Register following the initial survey completed in 1995 by Historic Resources Group (HRG).

The National Register and California Register recognizes a property's integrity through seven aspects or qualities: location, design, setting, materials, workmanship, feeling, and association. Eligible properties should retain several, if not most, of these aspects. Both registers require that a resource retain sufficient integrity to convey its significance, and the property must retain the essential physical features that enable it to convey its historical identity. The South Campus of Rancho Los Amigos was identified as significant under Criteria A/1 for its association with evolving medical care in Los Angeles County during the late nineteenth and early twentieth centuries. Based upon this significance finding, a period of significance has been identified as 1888, when the property began operation as the Los Angeles County Poor Farm, and 1952 when the former poor farm had fully converted into a long-term healthcare facility and most of the agricultural fields had been subdivided for residential development. Additionally, the property was

determined significant under National Register Criterion C as a significant and distinguishable entity whose components lack individual distinction (historic district).

Location

The South Campus has remained in its original location since it opened as the Los Angeles County Poor Farm in 1888. Therefore, the South Campus retains its integrity of location for the period of significance (1888-1952).

Design

When the South Campus was originally planned by the Los Angeles based architectural firm of Kysor, Morgan, and Walls in 1887, the intent was to build an agricultural institution. Initially conceived as the Los Angeles County Poor Farm, the South Campus was intended to provide food, shelter, and clothing to the County's indigent population. The four original buildings were centrally located among agricultural fields. Overtime, the South Campus expanded as the needs of the institution evolved. The agricultural fields receded as new patient wards were constructed alongside support and administration facilities. While the current conditions of the South Campus do not reflect the original design intent of Kysor, Morgan, and Walls, the changes that occurred to the property throughout the late nineteenth and early twentieth centuries are what make it significant. The changes to the South Campus reflect changing approaches to healthcare that were occurring locally as well as nationwide. The greatest period of change for the property occurred between 1907 and 1932, when XX buildings were constructed, many of which remain extant. Although they were not constructed based on a master plan developed by the sites original designers, they reflect the changing needs of the institution. The South Campus retains intact examples of each of the building types that were present throughout the period of significance (1888-1952). Therefore, the South Campus retains its integrity of design reflecting the evolution of the property throughout its transition from a poor farm to a long-term healthcare facility.

Workmanship

As stated previously, the South Campus developed over a period of time, transitioning from a poor farm into a long-term healthcare facility. Throughout the period of significance (1888-1952), new buildings and features were constructed to meet the evolving needs of the institution. These buildings and features reflect a variety of architectural styles and construction techniques based upon their purpose and date of construction. Currently the South Campus retains examples of a variety of architectural styles, including Craftsman, Neoclassical Revival, Spanish Colonial Revival, Renaissance Revival and brick vernacular, as well as utilitarian structures. Additionally, the South Campus retains 62 contributing buildings and features, constructed over a sixty-year period. These buildings and features, which remain intact and retain enough integrity to contribute to the District, reflect a wide variety of uses, construction techniques, and workmanship. Therefore, the South Campus retains integrity of workmanship.

Materials

The South Campus has suffered from deterioration of its original materials overtime. Despite the deterioration that has occurred, the contributing buildings found throughout the District retain their original materials including, wood, masonry, cast iron, concrete, and plaster. The contributing buildings represent each of the building types that were located on the property during the period of significance (1888-1952), reflecting the changes that occurred to the institution as it adapted to the healthcare needs of the County. In its current condition, the South Campus possesses the necessary materials to reflect its significance. Therefore, the South Campus retains its integrity of materials.

Setting

The historic setting of the South Campus has been altered significantly over time due to the subdivision of the former agricultural fields. Properties north of the South Campus have been redeveloped with warehouses and office buildings, while properties to the east were subdivided for residential development in the 1950s. Although these changes to the setting have removed the former poor farm from its agricultural setting, the changes reflect the property's transformation from a poor farm into a long-term healthcare facility. While the fields surrounding the former poor farm have been lost due to infill development, the immediate setting of the District and its contributors remains intact. The original circulation paths remain, reflecting the property's original layout during its inception in 1888. The District retains 62 contributing buildings and features, constituting a majority of the buildings present during the District's period of significance (1888-1952). Although the landscaping has evolved over time, the open areas throughout the District's interior remain without infill development, reflecting the conditions of the property during the period of significance. While the broader setting outside of the District has been altered by infill development, the immediate setting that contributes to the District's significance remains intact. Therefore, the District retains its integrity of setting.

Feeling

The District retains examples of the eight different building types that were present during the period of significance (1888-1952). Each of the building types contributed to the overall function of the institution. In addition to the contributing buildings, the District retains its original circulation paths and open landscape with very little infill development. With 62 contributing buildings and features reflecting a variety of uses, the South Campus continues to convey the feeling of an early twentieth century healthcare facility and retains its integrity of feeling.

Association

The South Campus continued to operate as a healthcare facility until the 1980s, when the County began to abandon the buildings. Currently, only the former Administration Building is in regular use. However, none of the contributing buildings, including the administration building, have been significantly altered for new uses. Therefore, because the contributing buildings continue to reflect their original healthcare related uses, the District retains its integrity of association.

Summary

The South Campus meets the National Register and California Register integrity requirements, retaining its integrity of location, design, workmanship, materials, setting, feeling, and association. The District remains in its original location since it opened as a poor farm in 1888. It has been identified as significant for its association with the evolving healthcare needs of Los Angeles County during the late nineteenth and early twentieth centuries. Although the District no longer reflects the original design intent of the architects as constructed in 1888, the changes that occurred to the property overtime have contributed to its significance. New buildings were added to the site overtime based on need and space available. Many of the buildings constructed during the period of significance (1888-1952) remain intact with little modification. The 62 contributing buildings, structures, and features represent eight different building types, reflecting their different uses and the overall function of the institution as it evolved into a long-term healthcare facility. Therefore, the District retains its integrity of design as it evolved over time. While some of the materials have deteriorated due to the abandonment of the site, the materials are intact and continue reflect the workmanship of the builders and designers at the time of their construction. The surrounding setting has changed significantly since the District was first developed as a poor farm. The former agricultural fields that

once surrounding the property have been subdivided for residential and commercial development. However, these changes reflect the property's significance as it evolved from a poor farm into a healthcare facility. The immediate setting within the district boundaries remains intact and continues to reflect the District's historic appearance. Consequently, the District retains its integrity of feeling as an early twentieth century healthcare facility, retaining key building types like the several patient wards and the administration building. The District retains integrity of association because the majority of the contributing buildings remain in the original condition. None of the buildings have been repurposed in a manner that resulted in substantial change. The property has been mostly abandoned for the last thirty years, with the exception of the Administration Building (LACO No. 1100), which has continued to operate as an office building. Therefore, the Rancho Los Amigos Historic District retains integrity of location, design, workmanship, materials, setting, feeling, and association.

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Additional Photographs

Overview of Aliso Street near intersection with Laurel Street, View facing Southeast (ESA, June 23, 2017)

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2017)
Dining/Social Facilities (cont.)	LACO No. 2436	Classroom Hut/Shed	1949	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	Yes	
				Feeling	No	
				Association	No	
	LACO No. 3592	Chapel	1953	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
Utilities	LACO No. 1163	Generator House	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 1292	Pump House	1932	Location	Yes	Non-Contributor (Lack of Integrity)
				Setting	No	
				Feeling	No	
				Association	No	
	LACO No. 1300	Power Plant	1925	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 1301	Water Tower	1913	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	

Building Type	LACO No.	Building Name	Date of Construction	Integrity Analysis		Eligibility Status (ESA, 2017)
Utilities (cont.)	LACO No. 1302	Shop, Laundry, Ice Plant	1909-1911	Location	Yes	Contributor**
				Setting	Yes	
				Feeling	Yes	
				Association	Yes	
	LACO No. 7000	Butler Building	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5513	Electrical Station 18	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5547	200,000 Gallon Tank	1966	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5548	Steam Plant	1966	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	
	LACO No. 5793	Electrical Distribution Panel	Unknown (Post 1952)	Location	N/A	Non-Contributor (Outside Period of Significance)
				Setting	N/A	
				Feeling	N/A	
				Association	N/A	

Overview of LACO No. 1301 (Water Tower), View facing Southeast (ESA, June 21, 2017)

Overview of LACO No. 1302 (Shop, Laundry, Ice Plant), View facing North (ESA, June 21, 2017)

Overview of LACO No. 1300 (Power Plant), View facing West (ESA, June 21, 2017)

Overview of LACO No. 1207 (Work Preparation Center No. 2), View facing Northwest (ESA, June 20, 2017)

As-built, as-found, and archival (historic, original design and construction) drawings were not available. These drawings were prepared for a proposed project that has not yet been constructed. The selected drawings are included because the background information provides approximate location, configuration, and dimensions of the as-found buildings. Do not read these drawings for any information regarding scope and description of mothballing work.

1. Architectural Design Survey (civil site survey), by Hennon, 2005
2. A00.50, Site Plan, by Gensler, 2011
3. A01.01P, 1st Floor Demolition Plan, by Gensler, 2011
4. A01.03P, Roof Demolition Plan, by Gensler, 2011
5. A09.06, East and West Elevations, by Gensler, 2011
6. A09.05, North and South Elevations, by Gensler, 2011
7. A09.15, Building Sections, by Gensler, 2011
8. A09.17, Building Sections, by Gensler, 2011
9. A09.16, Building Sections, by Gensler, 2011
10. A09.18, Building Sections, by Gensler, 2011
11. A09.07, Courtyard Elevations, by Gensler, 2011
12. A11.06, Wall Elevations, by Gensler, 2011
13. A11.08, Wall Elevations, by Gensler, 2011
14. A11.09, Wall Elevations, by Gensler, 2011
15. A11.10, Wall Elevations, by Gensler, 2011
16. A11.07, Wall Elevations, by Gensler, 2011

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historicla.com

LEGAL DESCRIPTION:

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

LOT 4 OF TRACT NO. 45367, IN THE CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 1136, PAGE(S) 54 THROUGH 60 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM THAT PORTION OF SAID LOT 4 THOSE PORTIONS OF SAID LAND LYING WITHIN LOT 1 OF TRACT NO. 47470, IN THE CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 1156, PAGE(S) 58 THROUGH 63 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

ALSO EXCEPT THEREFROM THAT PORTION OF SAID LOT 4 LYING WITHIN PARCEL 1 OF PARCEL MAP NO. 25086, IN THE CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP FILED IN BOOK 284, PAGE(S) 98, 99 AND 100 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

TAX PARCEL NO. 6245-016-934

LEGEND:

A/C = ASPHALT
AC = AIR CONDITIONING UNIT
BW = BACK OF WALK
CATV = CABLE T.V. VAULT
CATVB = CABLE T.V. BOX
CB = CATCH BASIN
CE = CITY ENGINEER
CEFB = CITY ENGINEER FIELD BOOK
C/L = CENTERLINE
CM = CONCRETE NAIL
CONC = CONCRETE
CS MON= COUNTY SURVEYOR MONUMENT
DWY = DRIVEWAY
EMH = ELECTRIC MANHOLE
EPB = ELECTRIC PULL-BOX
EV = ELECTRIC VAULT
FB = FIELD BOOK
FDC = FIRE DEPT. CONNECTION
FFE = FINISH FLOOR
FH = FIRE HYDRANT
FL = FLOWLINE
GM = GAS METER
GP = GUARDPOST
GV = GAS VALVE
GVLT = GAS VAULT
HB = HOSE BIB
IDV = IRRIGATION CONTROL VALVE
IP = IRON PIPE MONUMENT
LACFCD= L.A. COUNTY FLOOD CONTROL DIST.
LD = SANITARY SEWER MANHOLE
LL = LANDSCAPE LIGHT
LP = LIGHT POLE
L&SPK = LEAD & SPIKE MONUMENT
L&T = LEAD & TACK MONUMENT
L&TAG = LEAD & TAG MONUMENT
MH = UTILITY MANHOLE
MW = MONITORING WELL
N&TAG = NAIL & TAG MONUMENT
PK = PK NAIL MONUMENT
P/L = PROPERTY LINE
PMT = PARKING METER
PP = POWER POLE
PRO = PRORATED
R/W = RIGHT-OF-WAY LINE
SDMH = STORM DRAIN MANHOLE
SL = STREET LIGHT
SLB = STREET LIGHT PULL BOX
SP = SPRINKLER
SP&T = SPIKE & TIN MONUMENT
SP&WW = SPIKE & WASHER MONUMENT
SSCO = SANITARY SEWER CLEAN OUT
SSDM = STANDARD SURVEY MONUMENT
SSMH = SANITARY SEWER MANHOLE
TBM = TEMP. BENCH MARK
TELC = TELEPHONE CABINET
TMH = TELEPHONE MANHOLE
TP = TELEPHONE POLE
TS = TRAFFIC SIGNAL
TSB = TRAFFIC SIGNAL PULL BOX
TVLT = TELEPHONE VAULT
TW = TOP OF WALL
WELL = WATER WELL VAULT
WI = WROUGHT IRON FENCE
WM = WATER METER
WMH = WATER MANHOLE
WV = WATER VALVE
WVLT = WATER VAULT
YL = YARDLIGHT

O = POST
Z = OVERHEAD WIRES
OLS = ORNIMENTAL LIGHT
S = SIGN

ALL BEARINGS AND DISTANCES SHOWN HEREON ARE FIELD MEASURED OR DERIVED FROM FIELD MEASUREMENTS UNLESS DENOTED AS THE FOLLOWING:

(XX.XX' TR) = RECORD DATA PER TRACT MAP NO.
(XX.XX' DD) = RECORD DATA PER DEED OF SUBJECT PROPERTY
(XX.XX' CO.EFB) = RECORD DATA PER COUNTY OF LOS ANGELES ENGINEER'S FIELD BOOK
(XX.XX' CSB) = RECORD DATA PER COUNTY OF LOS ANGELES SURVEYOR MAP NO.
(XX.XX' RS) = RECORD DATA PER RECORD OF SURVEY NO.

SURVEYOR'S STATEMENT:

THIS MAP CORRECTLY REPRESENTS A FIELD SURVEY MADE BY ME OR UNDER MY DIRECTION DURING 2005 & MARCH 2006 & DEC. 2008.

Robert D. Hennon

ROBERT DAVID HENNON, PLS 5573 (LIC. EXPIRES 9-30-09)

PROFESSIONAL LAND SURVEYOR ROBERT DAVID HENNON L.S. NO. 5573 EXP. 9-30-09 STATE OF CALIFORNIA

GRAPHIC SCALE
0' 15' 30' 60'

SURVEYOR'S NOTES:

1. THE BASIS OF BEARINGS FOR THIS MAP IS THE INVERSE OF THE STATE PLANE COORDINATES HELD FIXED BETWEEN POINTS 73 AND 70 PER RECORD OF SURVEY FILED IN BOOK 145 PAGE 49 TO 53 OF RECORD OF SURVEY IN THE OFFICE OF THE LOS ANGELES COUNTY RECORDER
2. ALL COORDINATE VALUES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE 5 BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83 1987) POINT NO. 70 BEING A 6" BOAT SPK & WASHER STAMPED "LS5557 6 PS 70" NEAR CENTERLINE INTERSECTION FLORES ST & LAUREL AVE. N.1,795,257.246, E 6511993.011 & POINT NO. 73 BEING A PUNCHED CUT SPK & WASHER NEAR CENTERLINE ERICKSON AVE. 5 FEET SLY OF ALISO ST. NO REF. N.1793587.812, E 6511957.755
3. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE COUNTY OF LOS ANGELES VERTICAL DATUM, 2000 ADJUSTMENT, PER THE FOLLOWING LOCAL BENCHMARK: LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS BM. NO. Y 7187 2000 ELEV= 96.319 FT " PK IN CB 1.5M E/O BCR @ SE COR IMPERIAL HWY & GARFIELD AVE. 12.2 M S & 16.8M E/O C/L INT."

RECORDED EASEMENTS AS DISCLOSED BY RECORD MAPS:

(H) EASEMENT 'H'
13' WIDE FIRE LANE EASEMENT SHOWN AS "RESERVED AND TO BE GRANTED BY SEPERATE INSTRUMENT" PER PARCEL MAP NO. 25086, PMB 284 PGS 98 TO 100 (PLOTTED PER SAID PARCEL MAP)

(I) EASEMENT 'I'
30' WIDE SIDEYARD EASEMENT SHOWN AS "RESERVED AND TO BE GRANTED BY SEPERATE INSTRUMENT" PER PARCEL MAP NO. 25086, PMB 284 PGS 98 TO 100 (PLOTTED PER SAID PARCEL MAP)

(J) EASEMENT 'J'
54' WIDE EASEMENT (ERICKSON AVE) &
62' WIDE EASEMENT (FLORES STREET) & 60' WIDE EASEMENT (LINK ROAD), BOTH PRIVATE AND FUTURE STREETS, GRANTED TO THE CITY OF DOWNEY FOR SANITARY SEWER, UNDERGROUND PUBLIC UTILITIES, WATER LINE, FIRE HYDRANT, FIRE LANE, WATER METER, VEHICULAR AND WALKWAY PURPOSES, PER PARCEL MAP NO. 25086, PMB 284 PGS 98 TO 100 (PLOTTED PER SAID PARCEL MAP)

(K) EASEMENT 'K'
42' WIDE EASEMENT (FLORES STREET) PRIVATE AND FUTURE STREET, GRANTED TO THE CITY OF DOWNEY FOR SANITARY SEWER, UNDERGROUND PUBLIC UTILITY, WATER LINE, FIRE HYDRANT, FIRE LANE, AND WATER METER PURPOSES, ALSO VEHICULAR AND WALKWAY, PER MAP OF TRACT NO. 47470, MB 1156 PGS 58 TO 64 (PLOTTED PER SAID TRACT MAP)

(L) EASEMENT 'L'
20' WIDE & VARIABLE WIDTH EASEMENT EASEMENT OF LA COUNTY FLOOD CONTROL DISTRICT FOR STORM DRAIN PURPOSES RECORDED 4-9-1959 O.R. D428-214, INST. NO. 3842. (PLOTTED PER TR. NO. 45367)

(P) EASEMENT 'P'
10' WIDE EASEMENT OF SO. CAL. GAS CO. FOR PUBLIC UTILITY PURPOSES PER O.R. M2004-853, REC. 10-7-1965 AS INST. NO. 4131 (PLOTTED PER TR. NO. 45367)

DON READ CORPORATION
501 MERCURY LANE, BREA, CALIFORNIA 92821
TEL (714) 529-9599
FAX (714) 529-2537
DRAFTING ● PHOTOGRAMMETRY ● REPRODUCTION ● CADMAPS

PHOTO DATE: 4-30-05 D. READ #05050

FOR REFERENCE ONLY

C1.00

IMPORTANT NOTE (DIAL 811):

WARNING! – THERE IS NO ASSURANCE THAT THE LOCATION OF SUBSTRUCTURES SHOWN ON THIS DRAWING ARE ACCURATE, OR THAT ALL EXISTING SUBSTRUCTURES ARE SHOWN ON THIS DRAWING. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL SUBSTRUCTURES WHETHER SHOWN OR NOT. ANY DAMAGE TO THE EXISTING SUBSTRUCTURES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. PRIOR TO EXCAVATIONS USA ALERT MUST BE CONTACTED BY DIALING 811 NATIONWIDE FOR FIELD LOCATION MARKINGS OF SUBSTRUCTURES.

BEFORE YOU DIG CALL 811 IT'S THE LAW!

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PROFESSIONAL LAND SURVEYOR ROBERT DAVID HENNON L.S. NO. 5573 EXP. 9-30-09 STATE OF CALIFORNIA

NO.	DATE	DESCRIPTION	BY
5	3-25-09	ADDED LEGAL DESCRIPTION	RDH
4	12-18-08	ADDITIONAL TOPO	RDH
3	12-5-08	ADDITIONAL TOPO	RDH
2	12-30-05	ADDITIONAL TOPO	RDH
1	12-30-05	POTHOLE & UTILITIES	RDH

THOMAS GUIDE:
LA CITY DIST. MAP: NA
ASS. PAR. NO. 6245-016-934
FILE: 2371.DWG
SURVEYED BY: HENNON

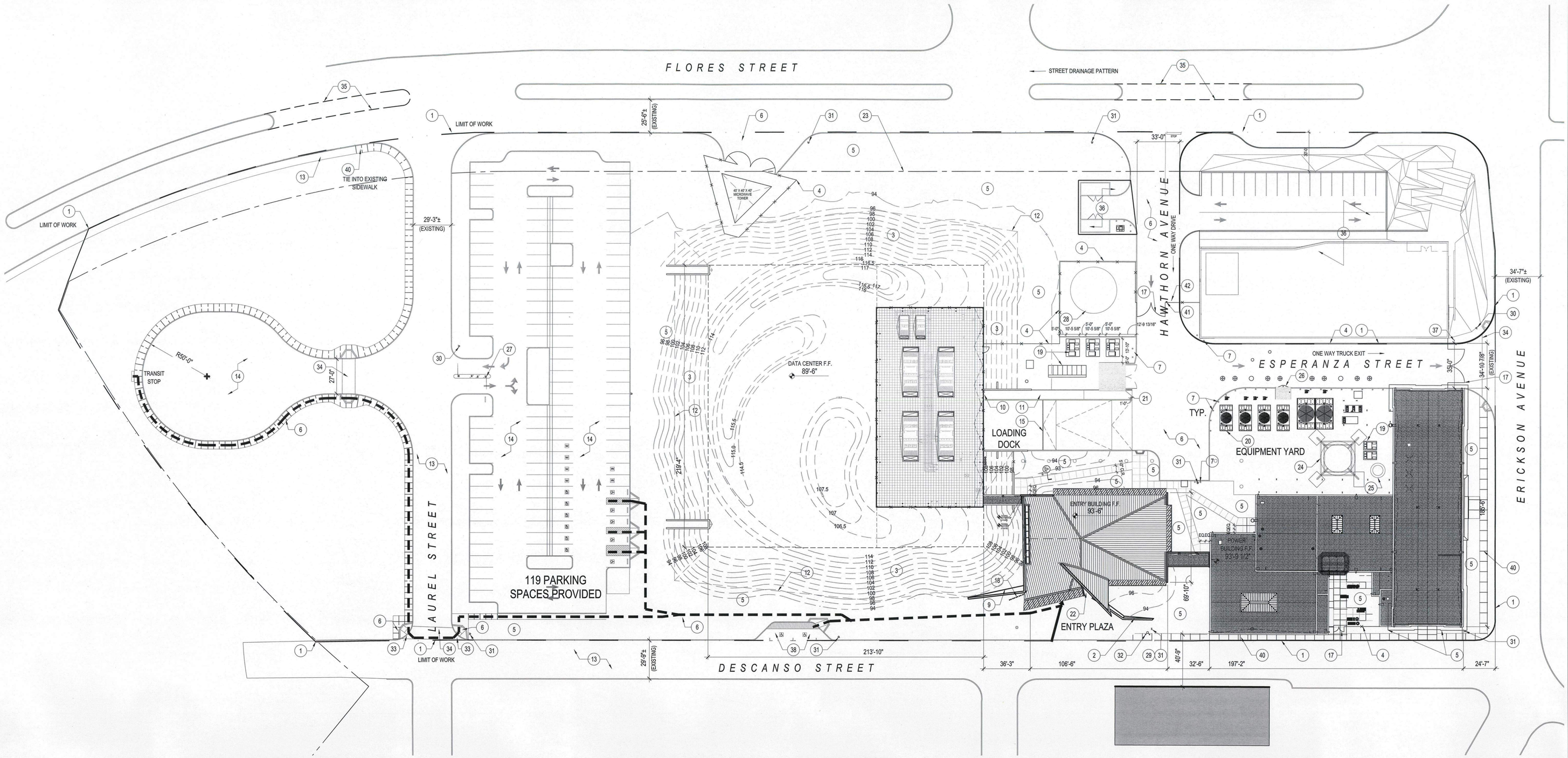
DATE: MAY 5, 2005
SCALE: ONE INCH = THIRTY FEET
CONTOUR INTERVAL: ONE FT.
PROJECT NO: 2371
SHEET ONE OF ONE SHEETS

HENNON Surveying & Mapping, Inc.
601 E. GLENOAKS BLVD., #208
GLENDALE, CALIFORNIA 91207
(818)243-0640 (818)790-0191
FAX: (818)243-0650

ARCHITECTURAL DESIGN SURVEY OF:

LA COUNTY DATA CENTER

IN THE CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA



SITE PLAN

SCALE: 1"=30'-0" SP_01

01

LAND DEVELOPMENT DEPARTMENT GENERAL NOTES:

ALL WORK OR IMPROVEMENT OUTSIDE OF THE PROJECT LIMIT AS DEPICTED IN THIS SITE IS NOT PART OF THIS PROJECT AND WILL BE IMPLEMENTED UNDER SEPARATE FUTURE PROJECTS BY THE COUNTY DEPARTMENT OF PUBLIC WORK AS PART OF RANCHO LOS AMIGOS MASTER CAMPUS PLAN.

ESTIMATED EARTHWORK QUANTITIES:

CUT: 15,000 CUBIC YARDS
FILL: 13,000 CUBIC YARDS
NET EXPORT: 2,000 CUBIC YARDS

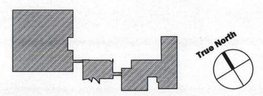
KEY NOTES

1. PROPERTY LINE - LIMIT OF WORK
2. CONCRETE RETAINING WALL
3. BERM
4. 6' HIGH METAL PICKET FENCE. SEE LANDSCAPING.
5. LANDSCAPE AREA PER LANDSCAPE DWGS
6. CONCRETE PAVING (ABV. STREET LEVEL)
7. BOLLARD. 24 TOTAL
8. STONE CLAD WALL
9. STONE PAVING
10. EXTERIOR STEPS
11. EXTERIOR RAMP
12. LINE OF MINIMUM STRUCTURAL BERM
13. EXISTING PAVING
14. ASPHALT PAVING
15. TRENCH DRAIN
16. AREA DRAIN
17. SWING GATES PER PLAN
18. BICYCLE SECURING RACKS FOR 7 BICYCLES
19. ELECTRICAL EQUIPMENT, SEE ELECTRICAL DRAWINGS.
20. MECHANICAL EQUIPMENT, SEE MECHANICAL DRAWINGS.
21. TRASH & RECYCLING STORAGE AND PICK UP AREA WITH TRASH COMPACTOR
22. 6' LONG PERMANENT ENTRY-WAY GRATES
    CITY UTILITY EASEMENT
23. EXISTING METAL WATER TOWER - SEE ELEVATIONS AND STRUCTURAL DRAWINGS
24. FOR SCOPE
    EXISTING CONCRETE CHIMNEY - SEE ELEVATIONS AND STRUCTURAL DRAWINGS
25. FOR SCOPE
26. FUEL-FILLING STATION FOR UNDERGROUND TANKS
27. PARKING LOT CONTROLLED VEHICULAR ENTRY/EXIT
28. WATER TANK
29. CLOSEST FIRE HYDRANT TO FIRE DEPT CONNECTION
30. EXISTING FIRE HYDRANT (TOTAL=2)
31. FIRE HYDRANT (TOTAL=7)
32. FIRE DEPT CONNECTION
33. CURB CUT WITH DETECTABLE WARNING. SEE CIVIL DRAWINGS AND 25/A00.40 FOR DETAILS
34. STRIPING FOR CROSSWALK. SEE CIVIL.
35. FUTURE MEDIAN CUTS AND STREET IMPROVEMENT PROJECTS SHOWN FOR REFERENCE ONLY (N.I.C.). TO BE DONE THROUGH FUTURE PROJECTS BY THE COUNTY.
36. CONSTRUCTION IN THIS AREA TO BE UNDER SEPARATE PERMIT. SEE CORRESPONDING DRAWINGS AND SPECIFICATIONS FOR SCOPE.
37. FREESTANDING 24"X36" METAL SIGNAGE STATING, "DO NOT ENTER" ON 6' HIGH METAL POLE WITH CONCRETE FOOTING.
38. ADDITIONAL REQUIRED ACCESSIBLE PARKING STALLS. PROVIDE REQUIRED STRIPING, CURB CUT AND SIGNAGE. SEE CIVIL DRAWINGS AND A00.40.
39. NOT USED.
40. CONC. SIDEWALK
41. GATE ACCESS PER SECURITY DRAWINGS
42. FREESTANDING 24"X36" METAL SIGNAGE STATING, "DELIVERIES ONLY" ON 6' HIGH METAL POLE WITH CONCRETE FOOTING.

SHEET NOTES

1. ALL ELEVATION HEIGHTS REFERENCE ELEVATION DATUM 0'-0" = 93'-6".
2. PER CIVIL DRAWINGS, ALL EXTERIOR GRADE ELEVATIONS SHALL BE -0.02' LOWER THAN THE INTERIOR FINISH ELEVATION.
3. ALL MATERIAL AND SCOPE CALLED OUT ARE NEW UNLESS NOTED OTHERWISE.
4. SEE CIVIL, STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON REQUIRED UNDERGROUND UTILITY TUNNELS AND TRENCHES
5. PROVIDE STANDARD CONC. FOOTINGS FOR POLE MOUNTED SECURITY CAMERAS AND EQUIPMENT. SEE SECURITY DRAWINGS FOR LOCATIONS OF EQUIPMENT. SEE CIVIL AND STRUCTURAL DRAWINGS FOR STANDARD FOOTING FOR POLE SIZE AND LOAD BASED ON SECURITY REQUIREMENTS. POLE TO BE PAINTED PER ARCHITECT'S SELECTION.

KEY PLAN



LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242
CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5850

Issue	Date & Issue Description	By	Check
-- 01	02/06/06	LA	VL
	DESIGN DEVELOPMENT		
-- 02	05/30/08	LA/NB	LA/NB
	50% CD DATA-ENTRY, 100% DD POWER BLDG		
-- 03	12/11/08	LA/NB	LA/NB
	90% CONSTRUCTION DOCUMENTS		
-- 04	04/06/09	LA/NB	LA/NB
	90% CONSTRUCTION DOCUMENTS		
-- 05	06/24/09	LA/NB	LA/NB
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-- 06	09/16/09	LA/NB	LA/NB
	90% CONSTRUCTION DOCUMENTS		
-- 07	01/05/10	LA/NB	LA/NB
	PROGRESS SET FOR REVIEW		
-- 08	12/17/10	LA/NB	LA/NB
	PLAN CHECK SUBMITTAL		
-- 09	04/01/11	LA/NB	LA/NB
	PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT
EDWARD P. CONDE
No. C12855
Ren. 12-31-11
STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
A00-50

Description
SITE PLAN

Scale
1"=30'-0"
0 15' 30' 60'

Ref. North

A00.50

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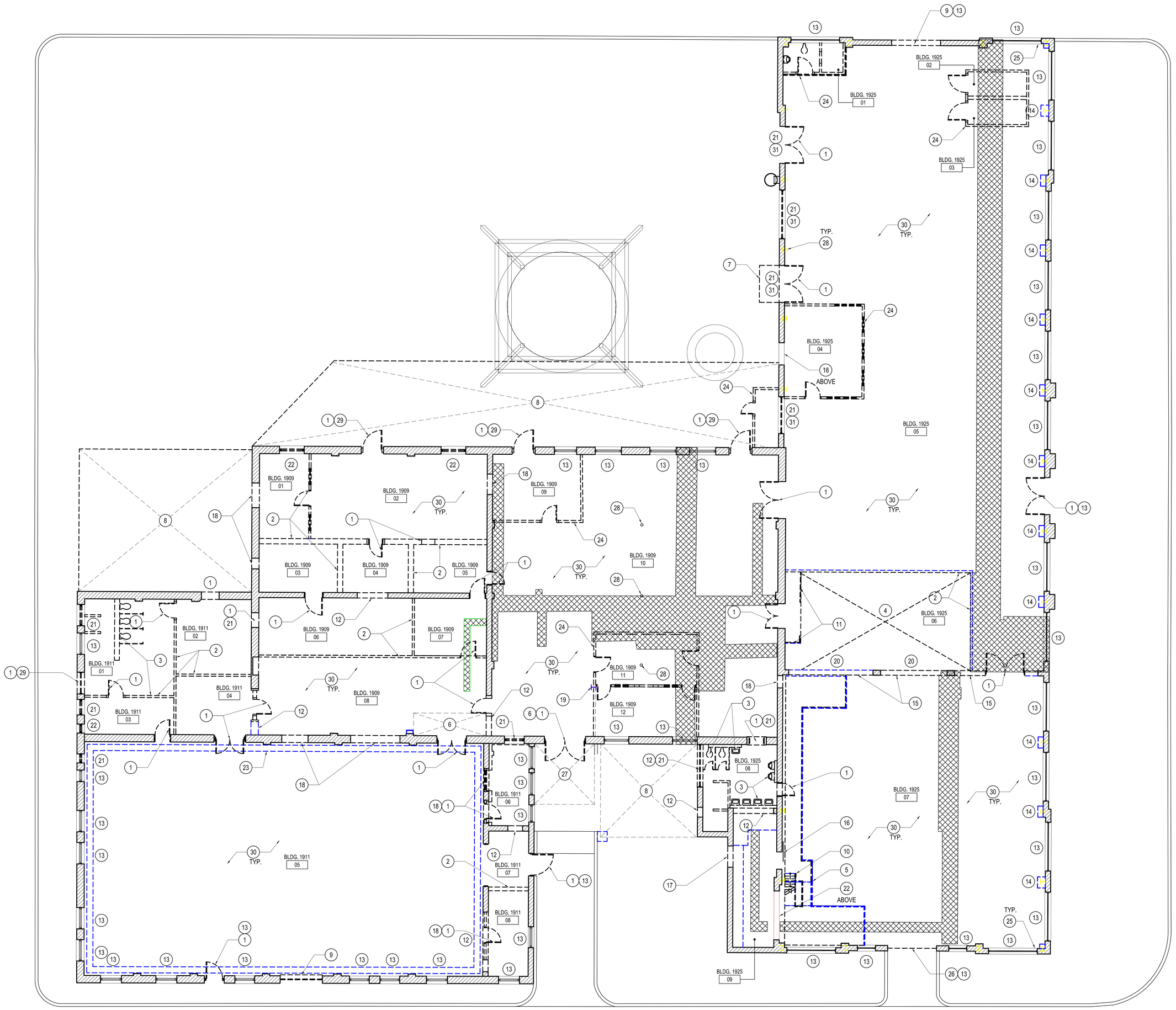


KEY NOTES

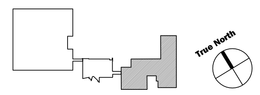
1. CAREFULLY REMOVE EXISTING DOOR, FRAME, HARDWARE AND MISC. ACCESSORIES TO BE USED IN MATCHING FOR REPLICATION. DISCARD UPON REPLICATION.
2. REMOVE EXISTING WALLS.
3. REMOVE EXISTING PLUMBING FIXTURES AND PLUMBING LINES.
4. REMOVE EXISTING PIT SLAB AND PIT WALLS. INFILL AFTER STRUCT. RETROFIT.
5. REMOVE EXISTING MEZZANINE AND RELATED STRUCTURE. EXISTING WALL COLUMNS TO REMAIN. PROTECT IN PLACE.
6. REMOVE EXISTING STEEL GANTRY STRUCTURE.
7. REMOVE EXISTING AWNING.
8. REMOVE EXISTING METAL SHED ROOF, WALLS & ASSOCIATED STRUCTURE.
9. REMOVE EXISTING OVERHEAD DOOR, TRANSOM, ASSOCIATED TRIM, METAL CORNER PROTECTION AND MISC. ACCESSORIES. PROTECT EXISTING TRANSOM WINDOW AND CHANNEL SUPPORT ABOVE.
10. REMOVE EXISTING STAIR AND RAILING.
11. REMOVE EXISTING GUARDRAIL.
12. REMOVE PORTION OF EXISTING WALL TO ACCOMMODATE FOR NEW CONSTRUCTION. SEE ARCH. FLOOR PLAN.
13. EXISTING WINDOW / TRANSOM TO REMAIN. PROTECT IN PLACE. SEE ELEVATIONS AND WINDOW SCHEDULE FOR REPAIR/REPLACEMENT SCOPE.
14. REMOVE BRICK PILASTER EXPOSING STEEL COLUMN.
15. REMOVE CLAY TILE INFILL BETWEEN CONCRETE COLUMNS AND BEAMS.
16. EXISTING DOOR, FRAME AND HARDWARE TO REMAIN. PROTECT IN PLACE.
17. REMOVE EXISTING LOUVER / HOOD.
18. REMOVE INFILL FRAMING IN OPENING.
19. EXISTING COOLING TOWER COLUMN TO REMAIN. PROTECT IN PLACE.
20. REMOVE EXISTING BEAM AT FLOOR LINE.
21. REMOVE ENTIRE EXISTING WINDOW ASSEMBLY.
22. REMOVE EXISTING WINDOW FOR USE AT OTHER LOCATION. PROTECT WINDOW, SILL, JAMB, HEAD AND STEEL CHANNELS.
23. REMOVE EXISTING FLOOR TRENCH THROUGHOUT.
24. REMOVE EXISTING STRUCTURE. INCLUDES WALLS, CEILINGS, DOORS, WINDOWS, FURNITURE, PLUMBING ACCESSORIES AND ELECTRICAL FIXTURES, ETC.
25. REMOVE EXISTING ROOF DRAIN LEADERS. FIELD VERIFY ALL LOCATIONS. PROTECT OPENING THRU EXTERIOR WALLS.
26. REMOVE EXISTING GATE AND ASSOCIATED ACCESSORIES. PROTECT EXISTING TRANSOM WINDOW AND CHANNEL SUPPORT ABOVE.
27. EXISTING STEEL GANTRY STRUCTURE TO REMAIN. PROTECT IN PLACE.
28. EXISTING STEEL COLUMNS TO REMAIN. PROTECT IN PLACE.
29. REMOVE (E) TRANSOM WINDOW ABOVE DOOR.
30. REMOVE ALL (E) MACHINERIES, EQUIPMENT AND DEBRIS.
31. REMOVE (E) STL. CHANNELS AND FRAMES BOTH DIRECTIONS VERITICAL AND HORIZONTAL. (E)CHANNEL @ SILL TO REMAIN.

LEGEND

- EXISTING CONSTRUCTION TO REMAIN.
- EXISTING UTILITY TUNNELS TO BE FILLED WITH COMPACTED SOIL PER STRUCTURAL DWGS.
- EXISTING CONSTRUCTION TO BE DEMOLISHED.

SHEET NOTES

1. REFER TO CIVIL DRAWING FOR SITE DEMOLITION INFORMATION.
2. REMOVE ALL EXISTING PLASTER FINISHES AND INSULATION FROM WALLS AND CEILINGS. PROTECT EXISTING BRICK AND ROOF FRAMING DURING AND AFTER THE REMOVAL PROCESS.
3. REMOVE ALL EXISTING INTERIOR CONCRETE FLOOR SLAB. UTILITY TUNNELS BELOW SLABS TO BE FILLED. WHERE TUNNELS EXTEND BEYOND BUILDING PERIMETER, REFER TO STRUCTURAL AND CIVIL DRAWINGS FOR FOUNDATION INFILL. REMOVE EXISTING MECHANICAL, PLUMBING AND UTILITY LINES.
4. REMOVE ALL EXISTING SUSPENDED CEILING, LIGHTING / PLUMBING / ELECTRICAL / MECHANICAL FIXTURES, MECH. SUPPORT, EQUIPMENT, NON-STRUCTURAL HORIZONTAL MEMBERS HANGING FROM (E) TRUSSES, FURNISHINGS, WINDOW SECURITY BARS AND DEBRIS FROM FLOOR, WALL, AND CEILING. REMOVE WITH CARE TO PROTECT STRUCTURE AND ITEMS TO REMAIN.
5. REMOVE PAINT FROM EXTERIOR AND INTERIOR BRICK FACADES AND INTERIOR WOOD FRAMING. REMOVE WATER DAMAGE FROM UNPAINTED EXPOSED WOOD ROOF FRAMING.
6. REMOVE ALL GLASS FROM EXISTING WINDOWS AND SKYLIGHTS. PROTECT FRAMES, SASH, MUNTINS, MULLIONS, SILLS, HARDWARE AND OTHER COMPONENTS FOR REUSE.
7. EXISTING WATER TOWER AND CHIMNEY TO REMAIN. PROTECT IN PLACE.
8. REFER TO STRUCTURAL DRAWINGS FOR NEW BEAMS AND REINFORCEMENT PRIOR TO DEMOLISHING WALLS. ALL WALLS BEING REMOVED THAT ARE BEING SUPPORTED BY NEW BEAMS SHALL BE SHORED OR STRUCTURALLY SUPPORTED PRIOR TO REMOVING WALLS.
9. CONTRACTOR TO FAMILIARIZE HIMSELF WITH THE SCOPE OF DEMOLITION WORK THROUGH FIELD VERFICATION WITH ARCHITECT AND OWNER PRIOR TO BIDDING AND DEMOLITION/REMOVAL WORK.
10. PATCH & REPAIR ALL AREAS AFFECTED BY DEMOLITION WORK. COORDINATE DEMOLITION WORK WITH CONSTRUCTION SCOPE.



KEY PLAN

LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5550

	Issue	Date & Issue Description	By	Check
--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
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		PROGRESS SET FOR REVIEW		
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		PLAN CHECK SUBMITTAL		
--	09	04/01/11	LA/NB	LA/NB
		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT ANDREW P. CRIBBS No. C 12855 Rens. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A01-01P.dwg

Description
1ST FLOOR DEMOLITION PLAN - POWER BUILDING

Scale
1/8" = 1'-0"

A01.01P

Ref. North

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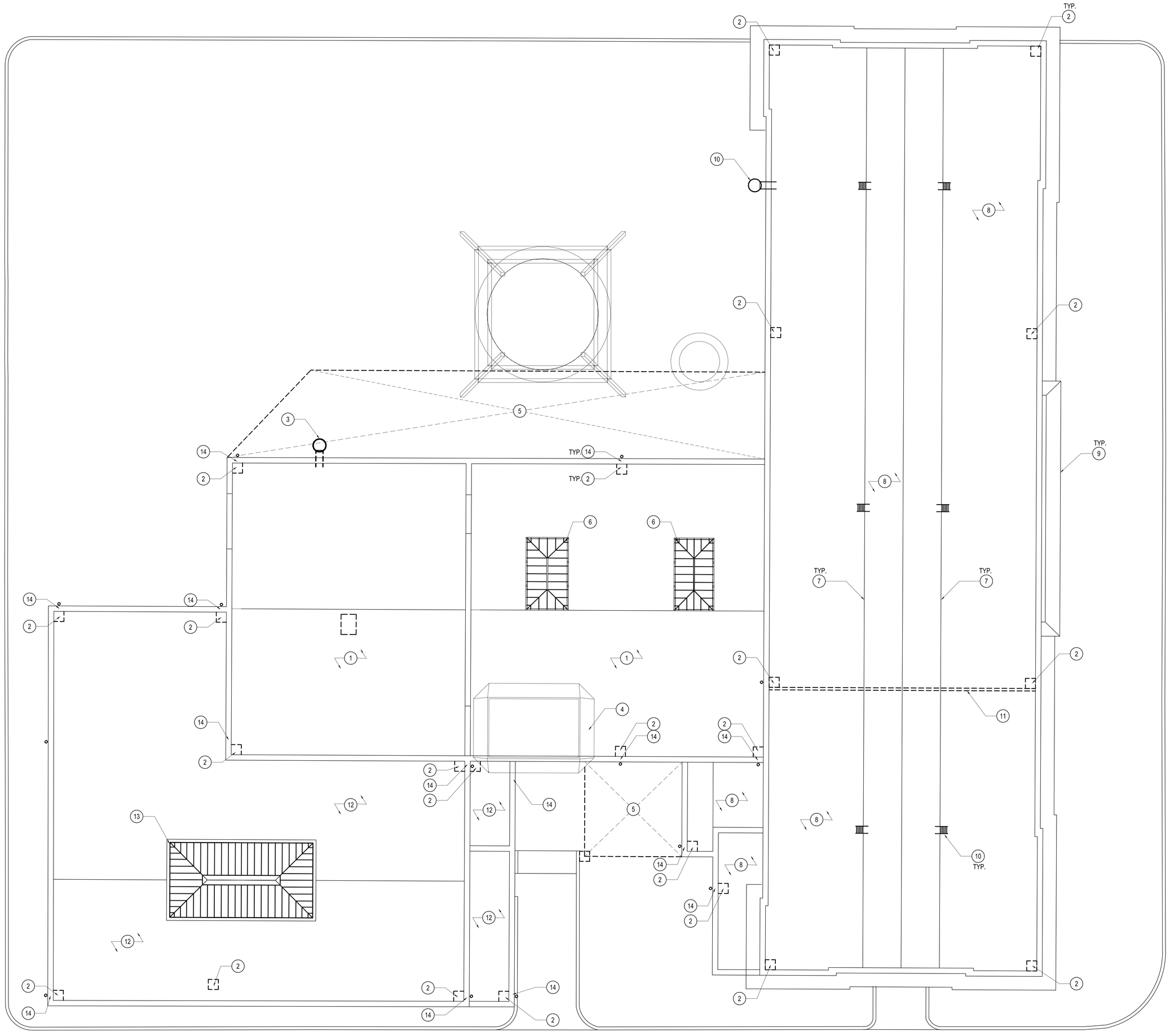
1ST FLOOR DEMOLITION PLAN - POWER BUILDING

SCALE: 1/8"=1'-0" A01-01P.dwg

01

ESPERANZA STREET



ERICKSON AVENUE

DESCANSO STREET

KEY NOTES

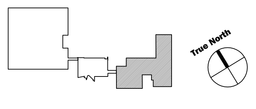
1. REMOVE EXISTING ROOFING ASSEMBLY AND ALL RELATED FLASHING & ACCESSORIES AT ALL AREAS (ROOF, PARAPET, CAP). EXISTING WOOD SHEATHING TO REMAIN. PROTECT IN PLACE.
2. REMOVE EXISTING DRAINS, SCUPPERS, LEADERS, GUTTERS, DOWNSPOUTS AND RELATED FLASHING COMPLETE. COORDINATE WITH ROOF CONSTRUCTION PLAN FOR REQUIRED SCOPE.
3. REMOVE EXISTING ROOF ACCESS LADDER. PATCH & REPAIR ALL HOLES AND AREAS AFFECTED BY DEMOLITION (SEE TYP. SHEETS BELOW)
4. EXISTING WOODEN COOLING TOWER TO REMAIN AND PROTECTED IN PLACE. SEE ROOF PLAN (A02.03P) AND A08.01 FOR ADDITIONAL DEMOLITION SCOPE ASSOCIATED WITH RETROFIT WORK.
5. REMOVE EXISTING CORRUGATED METAL OVERHANG, ASSOCIATED VERTICAL STRUCTURE AND MISC. ACCESSORIES.
6. CAREFULLY REMOVE AND RETAIN ENTIRE SKYLIGHT ASSEMBLY, ITS COMPONENTS AND CURB TO SERVE AS A REFERENCE AND TO ALLOW REPLICATION OR REUSE BY SKYLIGHT CONTRACTOR. COORDINATE WITH SKYLIGHT CONTRACTOR. SEE A08.02.
7. REMOVE IDENTIFIED EXISTING MONITOR WINDOWS AND FRAMES. REFER TO ARCHITECTURAL ELEVATIONS FOR LOCATIONS.
8. REMOVE EXISTING ROOFING ASSEMBLY AND ALL RELATED FLASHING & ACCESSORIES AT ALL AREAS (ROOF, PARAPET, CAP). EXISTING CONC. DECK TO REMAIN.
9. ALONG T.O. CORNICE, REMOVE MASTIC BETWEEN EDGE OF CONCRETE AND SHEET METAL CAP. PROTECT IN PLACE. SEE ELEVATIONS ON A09.05, A09.06 AND A09.07 FOR REFERENCE AND REQUIRED COORDINATION WITH REFURBISH/REPAIR WORK PER 3/A09.07.
10. REMOVE, REFURBISH AND REPAINT EXISTING STEEL ROOF ACCESS LADDER. PROTECT FOR REUSE. VERIFY ALL LOCATIONS.
11. REMOVE EXISTING HOLLOW CLAY TILE STUCCO WALL FLUSH WITH CONCRETE ROOF DECK.
12. REMOVE EXISTING ROOFING ASSEMBLY AND ALL RELATED FLASHING & ACCESSORIES AT ALL AREA (ROOF, PARAPET AND CAP). REMOVE EXISTING WOOD SHEATHING.
13. CAREFULLY REMOVE AND RETAIN ENTIRE SKYLIGHT ASSEMBLY (ABOVE VERTICAL WINDOW WALLS) TO SERVE AS A REFERENCE AND TO ALLOW REPLICATION OR REUSE BY SKYLIGHT CONTRACTOR. COORDINATE WITH SKYLIGHT CONTRACTOR. REMOVE METAL GUTTER, FLASHING, CLADDING, SHEATHING AND GLASS IN WALLS. PROTECT WALL FRAMING IN PLACE. SEE A08.02.
14. REMOVE PORTION OF (E) BRICK MASONRY WALL TO ACCOMMODATE ROOF DRAIN PIPE PENETRATION AND/OR SCUPPER INSTALLATION. COORDINATE WITH ROOF CONSTRUCTION PLAN FOR SIZE, LOCATION AND REQUIRED SCOPE.

LEGEND

EXISTING CONSTRUCTION TO BE DEMOLISHED.

SHEET NOTES

1. REFER TO CIVIL DRAWINGS FOR SITE DEMOLITION INFORMATION.
2. REMOVE ALL EXISTING PLUMBING LINES, MECHANICAL LINES AND EQUIPMENT, ELECTRICAL CONDUIT AND EQUIPMENT, ROOF DRAINS, SCUPPERS, LEADERS AND DEBRIS. REMOVE PORTIONS OF ROOF AND WALLS TO ACCOMMODATE NEW ROOF DRAINS, SCUPPERS, PIPES, LEADERS, AND DOWNSPOUTS AS REQUIRED.
3. REMOVE ALL GLASS FROM EXISTING WINDOWS AND SKYLIGHTS. PROTECT FRAMES, SASH, MUNTINS, MULLIONS, SILLS, HARDWARE AND OTHER COMPONENTS FOR REUSE. SEE CORRESPONDING SHEETS FOR MORE INFORMATION ON SCOPE.
4. EXISTING WATER TOWER AND CHIMNEY TO REMAIN. PROTECT IN PLACE.
5. ALL EXISTING ROOF DRAINS AND ASSOCIATED COMPONENTS SHALL BE REMOVED. FIELD VERIFY LOCATION AND QUANTITY OF ALL EXISTING ROOF DRAINS AND ACCESSORIES FOR DEMOLITION ITEMS CALLED OUT AS TYPICAL.
6. PATCH & REPAIR ALL AREAS AFFECTED BY DEMOLITION WORK.
7. COORDINATE REQUIRED DEMOLITION WORK WITH CONSTRUCTION SCOPE.



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DOWNEY, CA 90242

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--	09	12/17/10	LA/NB	LA/NB
		PLAN CHECK SUBMITTAL		
--	10	04/01/11	LA/NB	LA/NB
		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT — EDWIN P. COMIS — No. C 12855 — Rem. 12-31-11 — STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A01-03P.dwg

Description
ROOF DEMOLITION PLAN - POWER BUILDING

Scale
1/8" = 1'-0"

A01.03P

Ref. North

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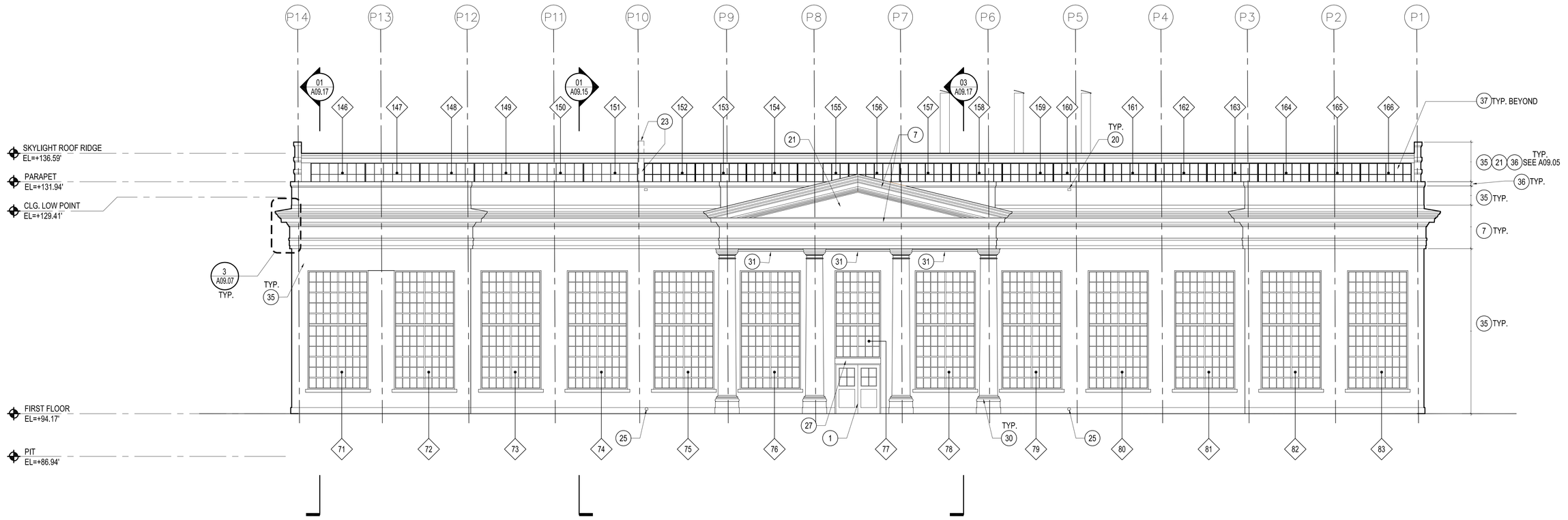
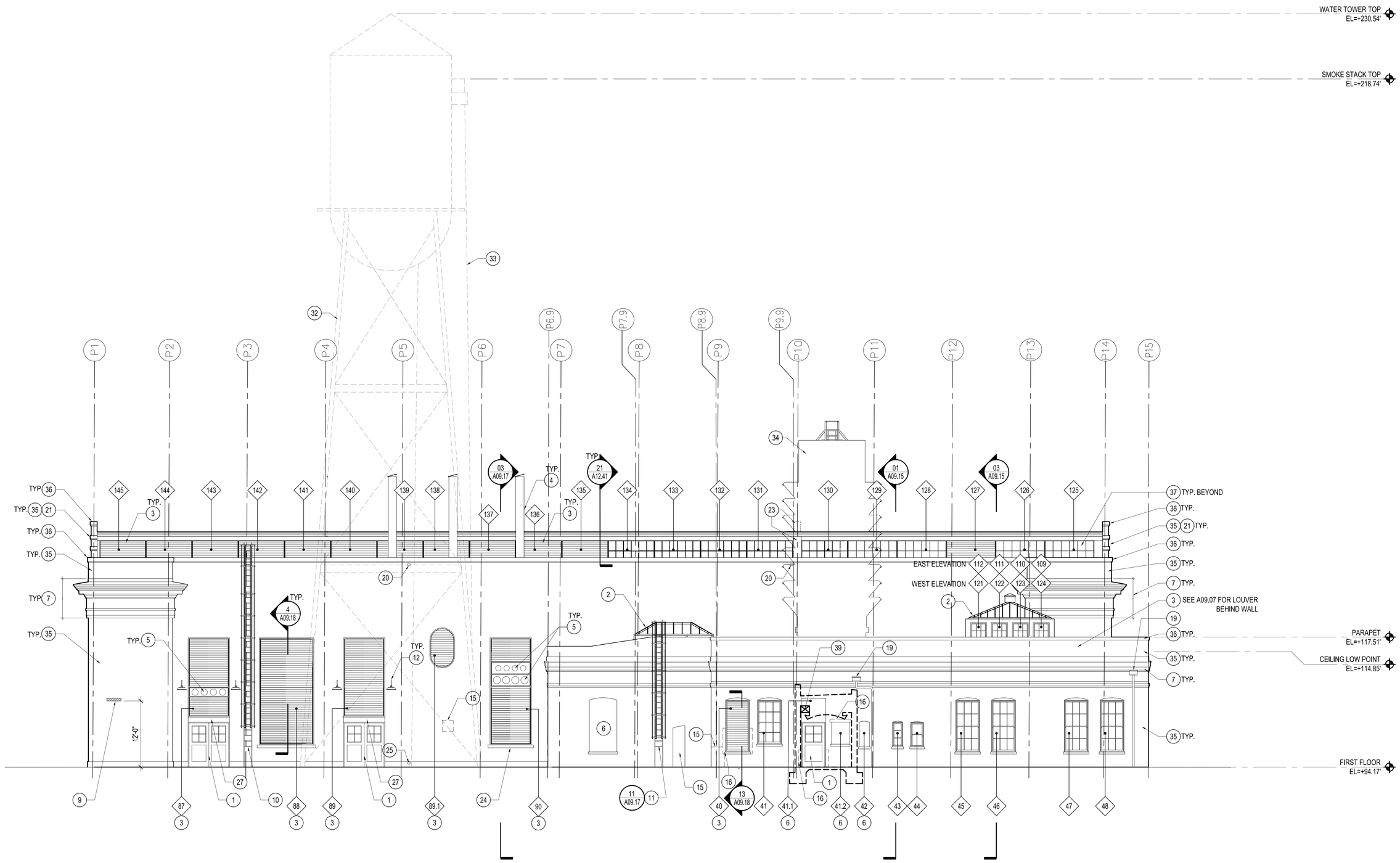
ROOF DEMOLITION PLAN - POWER BUILDING
SCALE: 1/8" = 1'-0" A01-03P.dwg

01



EAST ELEVATION
SCALE: 1/8"=1'=0" EE_0906-96.dwg

02



WEST ELEVATION
SCALE: 1/8"=1'=0" EE_0906-96.dwg

01

KEY NOTES

1. PAINTED CUSTOM DOOR, FRAME, AND HARDWARE. SEE DOOR SCHEDULE.
2. REBUILD/REFURBISH EXISTING SKYLIGHT, CURBS, WALLS AND REGLAZE. SEE A08.02 AND STRUCTURAL DRAWINGS FOR SCOPE.
3. PAINTED CUSTOM MECHANICAL LOUVERS BEHIND EXISTING/NEW WINDOW FRAME PER WINDOW SCHEDULE. SEE MECH. DRAWINGS FOR PIPE PENETRATIONS. PROVIDE WATER PROOFING AT ALL PENETRATIONS. SEE A09.18
4. PAINTED MECHANICAL FLUE SHOWN FOR REFERENCE. SEE MECHANICAL DRAWINGS.
5. MECHANICAL PIPING. SEE MECHANICAL DRAWINGS. PROVIDE WATERPROOFING.
6. INFILL EXISTING WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE EXISTING COURSING AND RECESS INFILL 1" FROM EXISTING EXTERIOR FACE.
7. REFURBISH AND PAINT (E) METAL CORNICE. RESEAL JOINT BETWEEN METAL CAP AND CONCRETE DECK AT CORNICE PER 3/A09.07. FIELD VERIFY CONDITION OF (E) CORNICE.
8. MECHANICAL LOUVERS. SEE MECH. DRAWINGS.
9. DAY TANK VENT OPENINGS. REMOVE FULL BRICKS FOR OPENINGS. PROVIDE FLASHING AND WATERPROOFING. SEE PENETRATION DETAILS AND REQUIREMENTS ON 19/A12.00.
10. REFURBISH AND PAINT (E) ROOF ACCESS LADDER.
11. PAINTED FIXED CAGED ROOF ACCESS LADDER TO MATCH EXISTING.
12. GOOSENECK EXTERIOR LIGHT FIXTURE TO MATCH EXISTING OR ORIGINAL. SEE ALSO ELECTRICAL.
13. ROOF DRAIN OUTLET.
14. PATCH AND REPAIR OPENING AND CONCRETE CURB AT (E) ROOF DRAIN LOCATION.
15. INFILL EXISTING OPENING FLUSH WITH EXTERIOR FACADE. MATERIAL AND COURSING TO MATCH EXISTING.
16. REMOVE (E) ANGLES AND REMAINING DOOR / WINDOW / GATE ACCESSORIES.
17. CUSTOM TRANSOM WINDOW TO MATCH (E) STEEL WINDOWS.
18. REMOVE (E) INFILL MATERIAL AT JOINT AND REPOINT.
19. PAINTED CUSTOM CONDUCTOR HEAD AND DOWNSPOUT TO MATCH EXISTING DESIGN. TERMINATE DOWNSPOUT AT GRADE ABOVE NEW SPLASH BLOCK.
20. ROOF SCUPPER. PROFILE AND MATERIAL TO MATCH EXISTING.
21. REPAIR AND PAINT (E) STUCCO PLASTER.
22. REFURBISH AND PAINT (E) METAL GRILLES.
23. REMOVE (E) HOLLOW TILE STUCCO WALL.
24. CONCRETE SILL TO MATCH EXISTING.
25. ROOF DRAIN AT (E) BUILDING OUTLET.
26. REFURBISH AND PAINT (E) METAL CLAD WOOD DOORS.
27. REPAIR AND PAINT (E) STUCCO PLASTER HEADER.
28. PAINTED CONC. HEADER. VERIFY HEADER IN FIELD.
29. REFURBISH AND PAINT (E) GANTRY STRUCTURE.
30. PATCH AND PAINT (E) STUCCO PLASTER COLUMN AND BASE.
31. REFURBISH (E) LIGHT FIXTURE.
32. (E) WATER TOWER AND TANK TO BE PAINTED WITH HIGH PERFORMANCE PAINT. SEE SPECIFICATION FOR PROCEDURES ON PAINT REMOVAL AND PREPARATION WORK. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
33. (E) CHIMNEY. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
34. STRUCTURAL RETROFIT AND RELATED ARCHITECTURAL WORK. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS
35. REMOVE (E) PAINT AND COATINGS; REPOINT, CLEAN AND RESTORE TO ORIGNIAL BRICK FINISH; AND APPLY SPECIFIED SEALER.
36. REPAIR (E) CONC. OR MASONRY COPING AND APPLY PAINT. SEE ALSO PARAPET & ROOFING DETAILS FOR ADDITIONAL SCOPE.
37. REPAIR/REPLACE (E) CLERESTORY WINDOWS. SEE WINDOW SCHEDULE AND CORRESPONDING DETAILS.
38. REPAIR (E) DAMAGED BRICK MASONRY. REPLACE BRICKS AS NEEDED TO MATCH ADJACENT SURFACES.
39. OPENING FOR MECHANICAL DUCTS AND/OR PIPES (TYP). SEE MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTRUAL DRAWINGS FOR REQUIRED COORDINATION.

SHEET NOTES

1. REFER TO THE SPECIFICATION FOR DESCRIPTION AND PROCEDURES OF REQUIRED HISTORIC TREATMENT FOR "REFURBISH" AND "REPAIR" SCOPE.
2. REMOVE EXISTING PAINT AND COATINGS FROM THE EXTERIOR MASONRY AND EXTERIOR SURFACES. RESTORE AND CLEAN TO ORIGINAL UNFINISHED CONDITION AND APPLY SELAER PER SPECIFICATION.
3. REMOVE ALL ELECTRICAL CONDUIT, ELECTRICAL DEVICES, LIGHT FIXTURES, VENT COVERS, MISC. METAL AND MISC. PLUMBING LINES ON BUILDING FACADE.
4. PATCH, REPAIR, CLEAN AND SEAL CONCRETE BASE, SILL AND PARAPET CAP AS REQUIRED.
5. RESEAL TRANSITION BETWEEN METAL CORNICE AND BRICK AS REQUIRED. SEE SPECIFICATION.
6. REPOINT ENTIRE EXISTING MASONRY FACADE. APPLY PROTECTIVE MASONRY SEALER AT ALL BRICK MASONRY SURFACES.
7. PATCH AND REPAIR HOLES IN EXISTING FACADE TO MATCH SURROUNDING FIELD. REPLACE DAMAGED OR MISSING BRICK AT FACADE, WINDOW SILL AND PARAPET AS REQUIRED. NEW MATERIAL TO MATCH EXISTING. PROVIDE ALLOWANCE OF 600 UNITS OF BRICK REPLACEMENT OVERALL BEYOND SCOPE SPECIFICALLY IDENTIFIED ON PLAN. PROVIDE UNIT PRICE AT THE TIME OF BIDDING.
8. REGLAZE EXISTING WINDOWS. REFER TO ARCHITECTURAL WINDOW SCHEDULE FOR GLASS TYPE AND SCOPE.
9. REPAIR, REFURBISH AND PAINT EXISTING STEEL AND WOOD WINDOW FRAMES. SEE ARCHITECTURAL WINDOW SCHEDULE.
10. SEE DOOR SCHEDULE FOR NEW AND REFURBISH SCOPE.
11. ALL MATERIAL AND SCOPE CALLED OUT OR SHOWN ON THIS PLAN IS NEW U.N.O.

KEY PLAN

LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5850

△	Issue	Date & Issue Description	By	Check
--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
--	04	04/06/09	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
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		COOLING TOWER PLAN CHECK		
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		PROGRESS SET FOR REVIEW		
--	09	12/17/10	LA/NB	LA/NB
		PLAN CHECK SUBMITTAL		
--	10	04/01/11	LA/NB	LA/NB
		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT
ANDREW F. COUEY
No. C 12855
Ren. 12-31-11
STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\SHEETS\A09-06.dwg

Description
EXTERIOR ELEVATIONS POWER BUILDING

Scale
1/8"=1'-0"

A09.06

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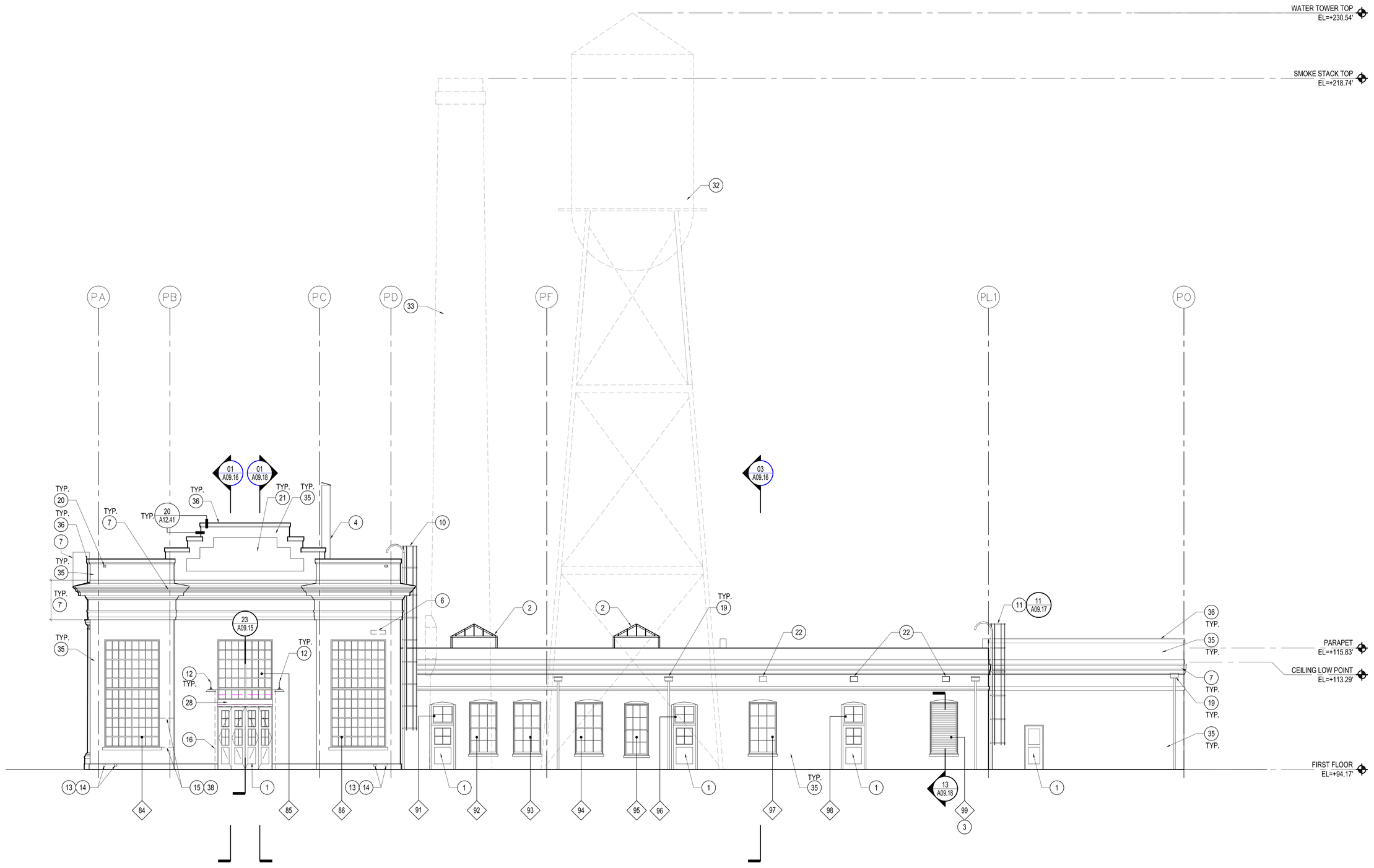
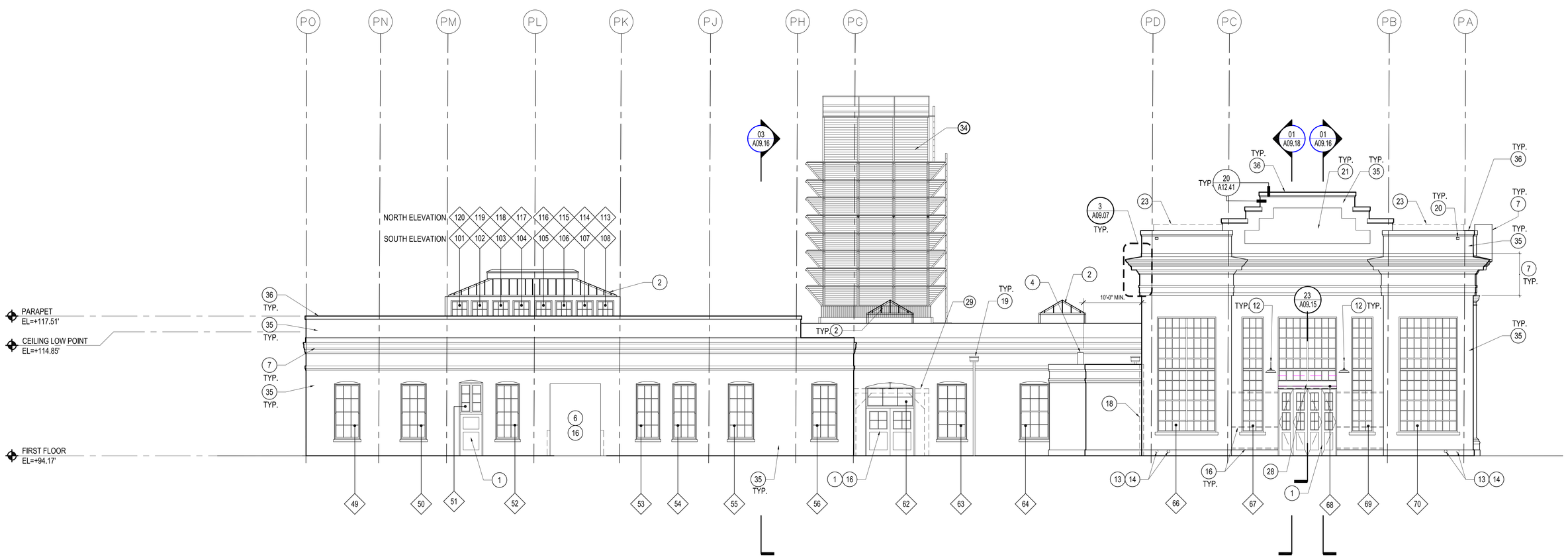


NORTH ELEVATION

SCALE: 1/8"=1'=0" EE_0905-96.dwg

02



SOUTH ELEVATION

SCALE: 1/8"=1'=0" EE_0905-96.dwg

01

KEY PLAN

KEY NOTES

1. PAINTED CUSTOM DOOR, FRAME, AND HARDWARE. SEE DOOR SCHEDULE.
2. REBUILD/REFURBISH EXISTING SKYLIGHT, CURBS, WALLS AND REGLAZE. SEE A08.02 AND STRUCTURAL DRAWINGS FOR SCOPE.
3. PAINTED CUSTOM MECHANICAL LOUVERS BEHIND EXISTING/NEW WINDOW FRAME PER WINDOW SCHEDULE. SEE MECH. DRAWINGS FOR PIPE PENETRATIONS. PROVIDE WATER PROOFING AT ALL PENETRATIONS. SEE A09.18
4. PAINTED MECHANICAL FLUE SHOWN FOR REFERENCE. SEE MECHANICAL DRAWINGS.
5. MECHANICAL PIPING. SEE MECHANICAL DRAWINGS. PROVIDE WATERPROOFING.
6. INFILL EXISTING WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE EXISTING COURSING AND RECESS INFILL 1" FROM EXISTING EXTERIOR FACE.
7. REFURBISH AND PAINT (E) METAL CORNICE. RESEAL JOINT BETWEEN METAL CAP AND CONCRETE DECK AT CORNICE PER 3/A09.07. FIELD VERIFY CONDITION OF (E) CORNICE.
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9. DAY TANK VENT OPENINGS. REMOVE FULL BRICKS FOR OPENINGS. PROVIDE FLASHING AND WATERPROOFING. SEE PENETRATION DETAILS AND REQUIREMENTS ON 19/A12.00.
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11. PAINTED FIXED CAGED ROOF ACCESS LADDER TO MATCH EXISTING.
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13. ROOF DRAIN OUTLET.
14. PATCH AND REPAIR OPENING AND CONCRETE CURB AT (E) ROOF DRAIN LOCATION.
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17. CUSTOM TRANSOM WINDOW TO MATCH (E) STEEL WINDOWS.
18. REMOVE (E) INFILL MATERIAL AT JOINT AND REPOINT.
19. PAINTED CUSTOM CONDUCTOR HEAD AND DOWNSPOUT TO MATCH EXISTING DESIGN. TERMINATE DOWNSPOUT AT GRADE ABOVE NEW SPLASH BLOCK.
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LOS ANGELES COUNTY DATA CENTER

7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler

2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5850

△	Issue	Date & Issue Description	By	Check
--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
--	04	04/06/09	LA/NB	LA/NB
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--	05	06/24/09	LA/NB	LA/NB
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		COOLING TOWER PLAN CHECK		
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		PLAN CHECK SUBMITTAL		
--	10	04/01/11	LA/NB	LA/NB
		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT
ANDREW P. CONN
No. C 12855
Ren. 12-31-11
STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\SHEETS\A09-05.dwg

Description
EXTERIOR ELEVATIONS POWER BUILDING

Scale
1/8"=1'-0"

A09.05

Ref. North

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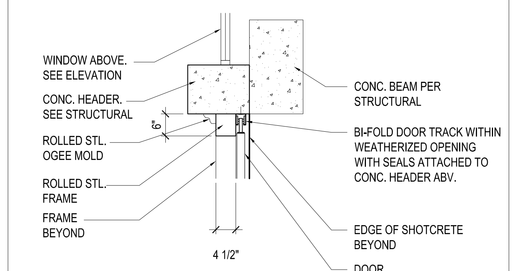
SCALE: 1/8"=1'-0" BS_POWER.dwg 25



TYP. DOOR HEAD @ BARN DOOR
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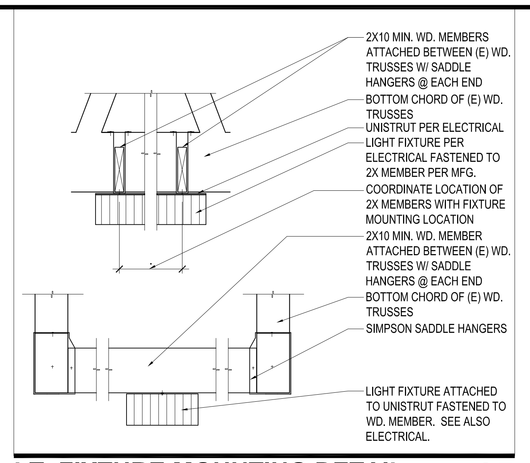

LT. FIXTURE MOUNTING DETAIL
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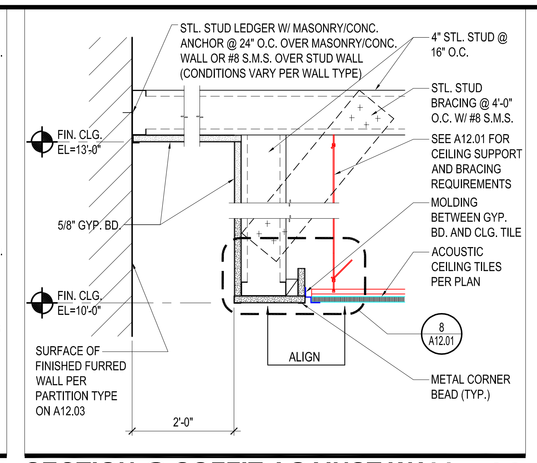

SECTION @ SOFFIT AGAINST WALL
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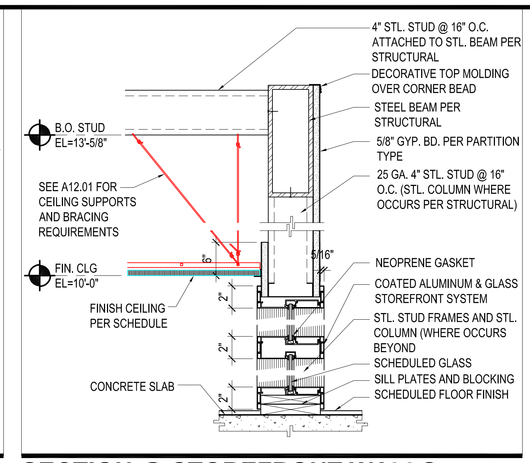

SECTION @ STOREFRONT WALLS
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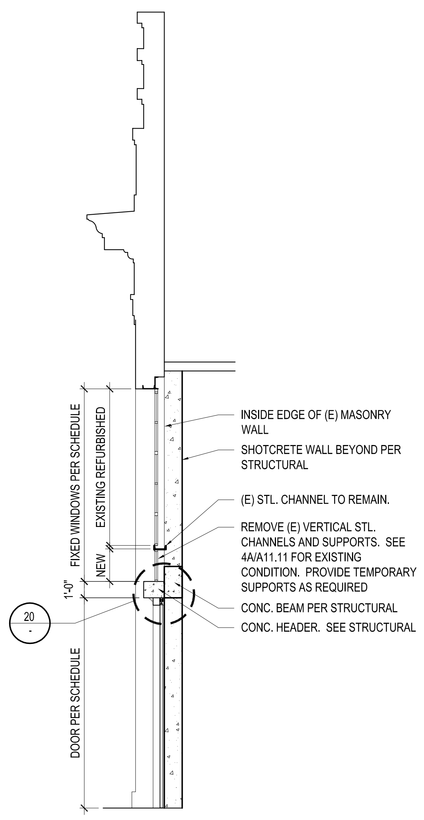

SECTION @ WINDOW/DOOR
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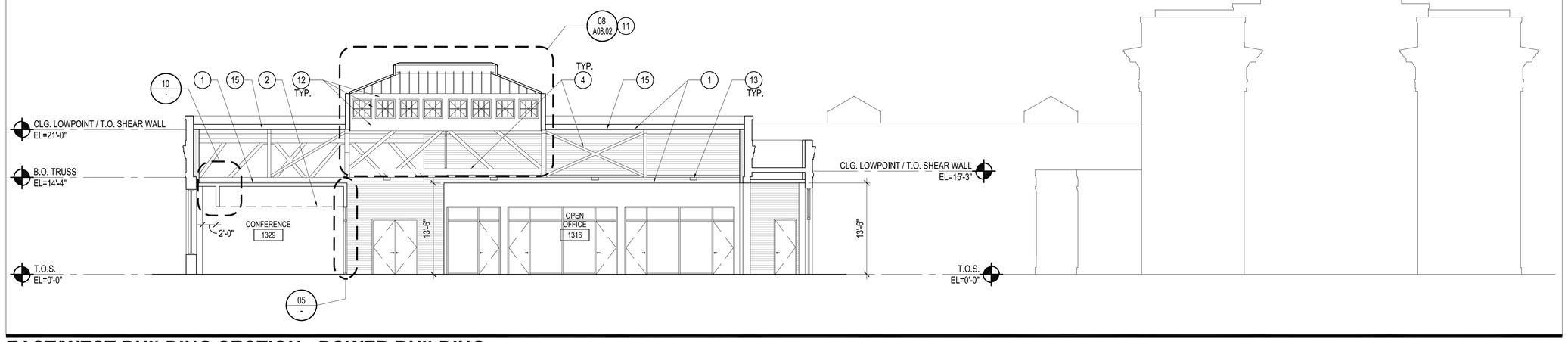
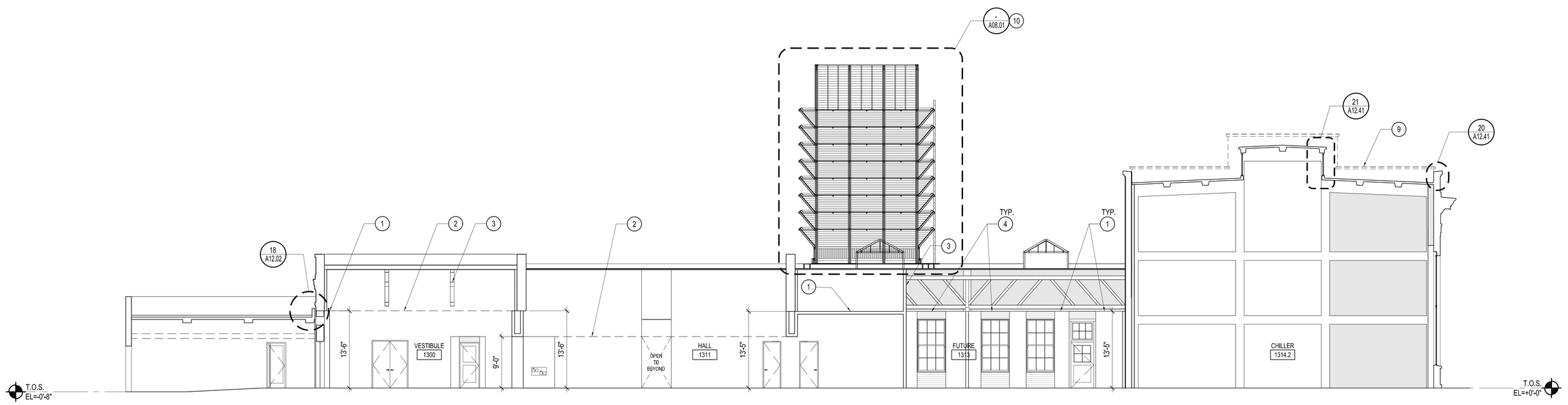


EAST/WEST BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 03



EAST/WEST BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 01

KEY NOTES

1. METAL STUD FRAMED WALL AND/OR CEILING.
2. LINE OF FINISH CEILING PER SCHDULE.
3. EDGE OF CONCRETE SHEAR WALL.
4. EXISTING STRUCTURE.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM (E) EXTERIOR FACE.
6. AIR INTAKE WALL LOUVERS, SEE MECHANICAL DRAWINGS.
7. ROOF DRAIN LEADER. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
8. MECHANICAL PIPING SUPPORT STRUCTURE. SEE STRUCTURAL DRAWINGS.
9. REMOVE (E) HOLLOW CLAY TILE STUCCO WALL FLUSH WITH CONCRETE ROOF DECK. SEE A01.03P.
10. STRUCTURAL RETROFIT AND ASSOCIATED ARCHITECTURAL WORK FOR (E) WOODEN COOLING TOWER. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS.
11. RETROFIT/REBUILD (E) SKYLIGHT STRUCTURE. SEE A08.02.
12. REPAIR/REFURBISH (E) SHEATHING. SEE A08.02.
13. LIGHT FIXTURES PER REFLECTED CEILING PLAN AND ELECTRICAL. SEE 15/A09.15 FOR MOUNTING DETAIL.
14. (E) BRICK SURROUND TO REMAIN, PROTECT IN PLACE. REPLACE BROKEN OR DAMAGE PIECES TO MATCH EXISTING.
15. REPLACE (E) CEILING WITH PLASTER CEILING (TYP.)
16. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.
17. EXPOSED CONCRETE CURB.

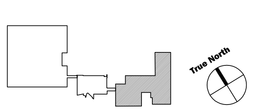
LEGEND

SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

SHEET NOTES

1. ALL MATERIAL AND WORK CALLED OUT OR SHOWN ON PLAN IS NEW UNLESS NOTED OTHERWISE.
2. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWING CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.



KEY PLAN

LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242
CAPITAL PROJECT #: 77416
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Gensler
2500 Broadway
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Seal/Signature

LICENSED ARCHITECT ANDREW P. COHN No. C 12855 Ren. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A09-15.dwg

Description
BUILDING SECTIONS & MISC. DETAILS
POWER BUILDING

Scale
1/8"=1'-0"

A09.15

Ref. North

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SCALE: 1/8"=1'-0" BS_POWER.dwg 25

SCALE: 1/8"=1'-0" BS_POWER.dwg 24

SCALE: 1/8"=1'-0" BS_POWER.dwg 23

SCALE: 1/8"=1'-0" BS_POWER.dwg 22

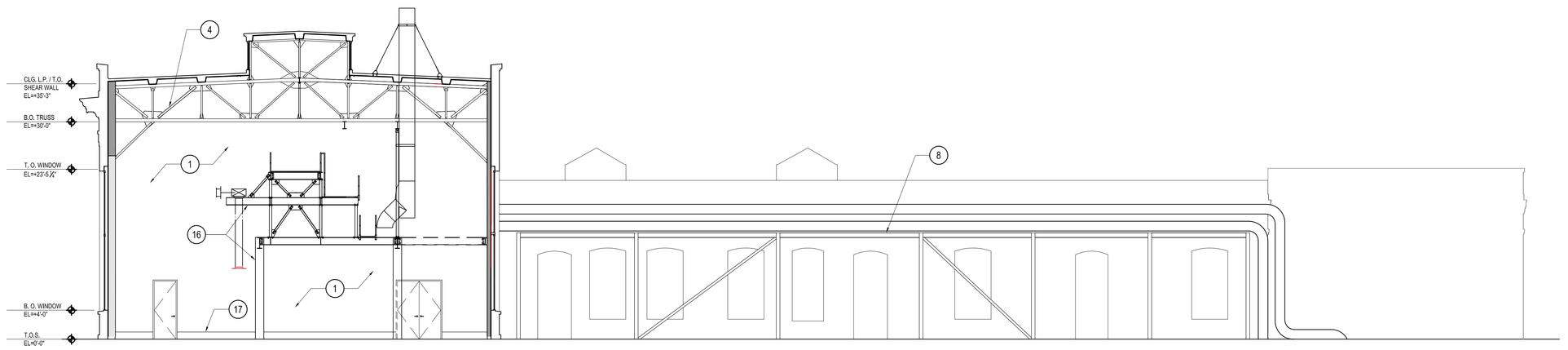
SCALE: 1/8"=1'-0" BS_POWER.dwg 21

SCALE: 1/8"=1'-0" BS_POWER.dwg 20

SCALE: 1/8"=1'-0" BS_POWER.dwg 15

SCALE: 1/8"=1'-0" BS_POWER.dwg 10

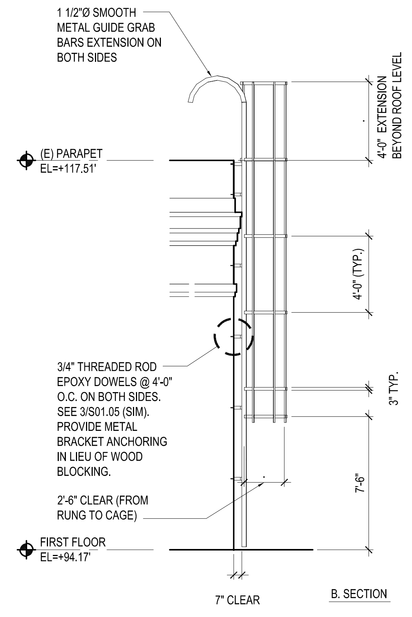
SCALE: 1/8"=1'-0" BS_POWER.dwg 05

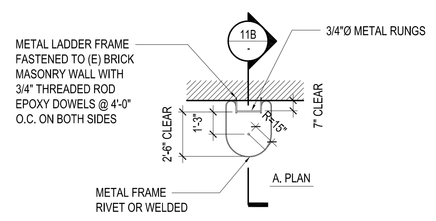


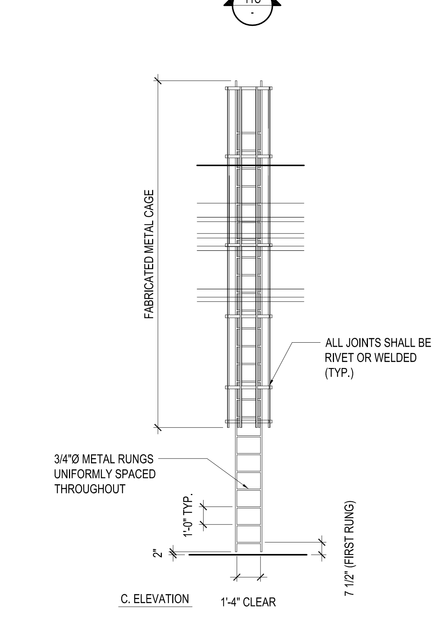
EAST/WEST BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 03

GENERAL NOTES AND REQUIREMENTS

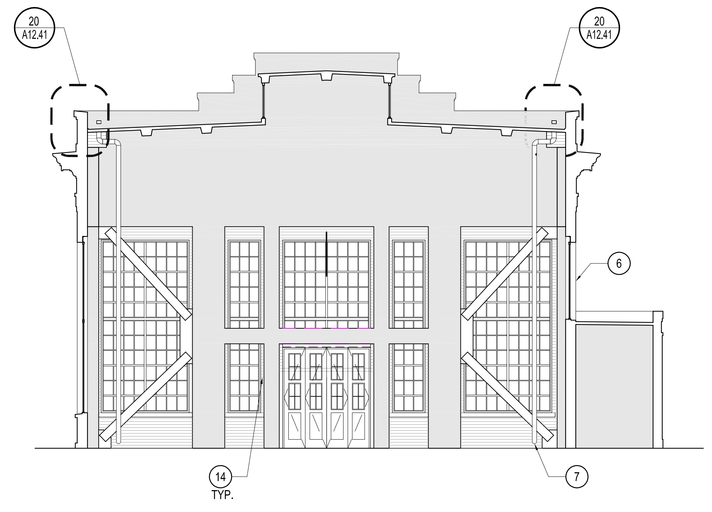
1. ALL DESIGN, DIMENSIONS AND FEATURES SHALL CONFORM TO CAL-OSHA STANDARDS AND REQUIREMENTS. VERIFY DRAWINGS AGAINST THE MOST CURRENT SAFETY STANDARDS AND SUBMIT SHOP DRAWINGS THAT COMPLIES WITH CAL-OSHA REQUIREMENTS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR INSTALLATION. FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS.
2. ALL METAL SURFACES SHALL BE PAINTED (WHERE REQUIRED) WITH HIGH PERFORMANCE PAINT WITH COLOR APPROVED BY THE ARCHITECT. COMPLY WITH ALL CAL-OSHA STANDARDS ON SURFACES REQUIRING SAFETY COLORS.
3. THE DESIGN INTENT IS TO MATCH THE EXISTING LADDER IN ITS APPEARANCE TO BE CONSISTENT WITH THE HISTORIC NATURE OF THE BUILDING. THE LADDER SHALL AT THE MINIMUM RESEMBLE THE GENERAL DESIGN AND APPEARANCE OF THE EXISTING LADDER.







LADDER PLAN, SECTION & ELEVATION
SCALE: 1/4"=1'-0" BS_POWER.dwg 11



EAST/WEST BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 01

KEY NOTES

1. METAL STUD FRAMED WALL AND/OR CEILING.
2. LINE OF FINISH CEILING PER SCHDULE.
3. EDGE OF CONCRETE SHEAR WALL.
4. EXISTING STRUCTURE.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM (E) EXTERIOR FACE.
6. AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
7. ROOF DRAIN LEADER. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
8. MECHANICAL PIPING SUPPORT STRUCTURE. SEE STRUCTURAL DRAWINGS.
9. REMOVE (E) HOLLOW CLAY TILE STUCCO WALL FLUSH WITH CONCRETE ROOF DECK. SEE A01.03P.
10. STRUCTURAL RETROFIT AND ASSOCIATED ARCHITECTURAL WORK FOR (E) WOODEN COOLING TOWER. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS.
11. RETROFIT/REBUILD (E) SKYLIGHT STRUCTURE. SEE A08.02.
12. REPAIR/REFURBISH (E) SHEATHING. SEE A08.02.
13. LIGHT FIXTURES PER REFLECTED CEILING PLAN AND ELECTRICAL. SEE 15/A09.15 FOR MOUNTING DETAIL.
14. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGE PIECES TO MATCH EXISTING.
15. REPLACE (E) CEILING WITH PLASTER CEILING (TYP.)
16. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.
17. EXPOSED CONCRETE CURB.

LEGEND

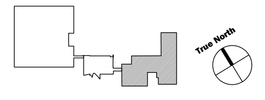
SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

SHEET NOTES

1. ALL MATERIAL AND WORK CALLED OUT OR SHOWN ON PLAN IS NEW UNLESS NOTED OTHERWISE.
2. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWING CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.

KEY PLAN



LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
Suite 300
Santa Monica, CA 90404
Telephone 310.449.5600
Facsimile 310.449.5850

	Issue	Date & Issue Description	By	Check
--	01	07/02/07	NB	NB
		50% SD POWER BLDG		
--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
--	04	04/06/09	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
--	05	06/24/09	LA/NB	LA/NB
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--	06	09/16/09	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
--	07	01/05/10	LA/NB	LA/NB
		PROGRESS SET FOR REVIEW		
--	08	12/17/10	LA/NB	LA/NB
		PLAN CHECK SUBMITTAL		
--	09	04/01/11	LA/NB	LA/NB
		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT ANDREW P. CORBIN No. C 12855 Exp. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A09-17.dwg

Description
BUILDING SECTIONS
POWER BUILDING

Scale
1/8"=1'-0"

A09.17

Ref. North

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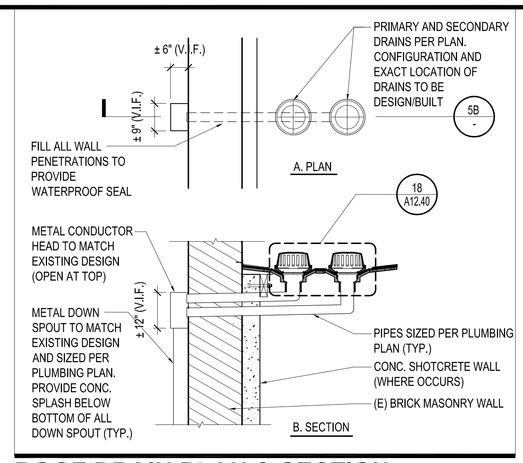
SCALE: 1/8"=1'-0" BS_POWER.dwg 25

SCALE: 1/8"=1'-0" BS_POWER.dwg 20

SCALE: 1/8"=1'-0" BS_POWER.dwg 15

SCALE: 1/8"=1'-0" BS_POWER.dwg 10



ROOF DRAIN PLAN & SECTION

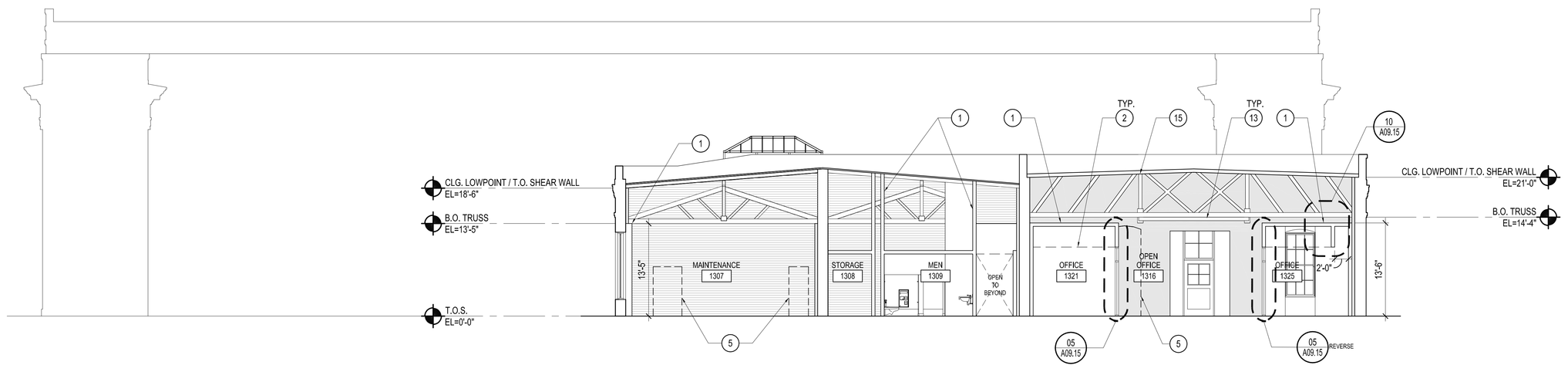
SCALE: 1/8"=1'-0" BS_POWER.dwg 05

KEY NOTES

1. METAL STUD FRAMED WALL AND/OR CEILING.
2. LINE OF FINISH CEILING PER SCHDULE.
3. EDGE OF CONCRETE SHEAR WALL.
4. EXISTING STRUCTURE.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM (E) EXTERIOR FACE.
6. AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
7. ROOF DRAIN LEADER. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
8. MECHANICAL PIPING SUPPORT STRUCTURE. SEE STRUCTURAL DRAWINGS.
9. REMOVE (E) HOLLOW CLAY TILE STUCCO WALL FLUSH WITH CONCRETE ROOF DECK. SEE A01.03P.
10. STRUCTURAL RETROFIT AND ASSOCIATED ARCHITECTURAL WORK FOR (E) WOODEN COOLING TOWER. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS.
11. RETROFIT/REBUILD (E) SKYLIGHT STRUCTURE. SEE A08.02.
12. REPAIR/REFURBISH (E) SHEATHING. SEE A08.02.
13. LIGHT FIXTURES PER REFLECTED CEILING PLAN AND ELECTRICAL. SEE 15/A09.15 FOR MOUNTING DETAIL.
14. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGE PIECES TO MATCH EXISTING.
15. REPLACE (E) CEILING WITH PLASTER CEILING (TYP.)
16. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.
17. EXPOSED CONCRETE CURB.

SCALE: 1/8"=1'-0" BS_POWER.dwg 24

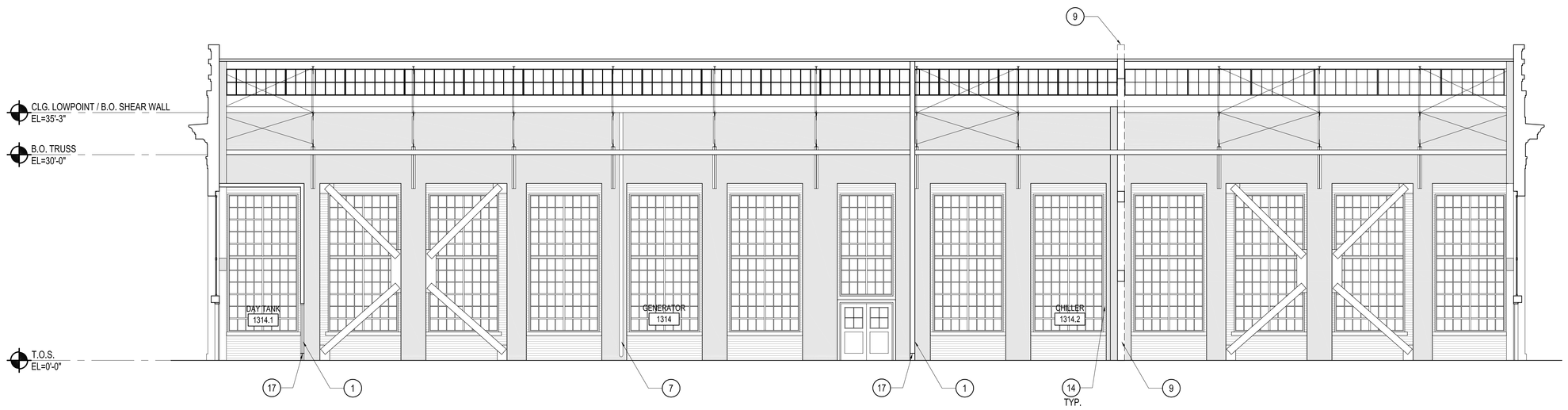
SCALE: 1/8"=1'-0" BS_POWER.dwg 23



NORTH/SOUTH BUILDING SECTION - POWER BUILDING

SCALE: 1/8"=1'-0" BS_POWER.dwg 03

SCALE: 1/8"=1'-0" BS_POWER.dwg 22



SCALE: 1/8"=1'-0" BS_POWER.dwg 21

NORTH/SOUTH BUILDING SECTION - POWER BUILDING

SCALE: 1/8"=1'-0" BS_POWER.dwg 01

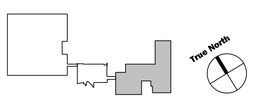
LEGEND

SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

SHEET NOTES

1. ALL MATERIAL AND WORK CALLED OUT OR SHOWN ON PLAN IS NEW UNLESS NOTED OTHERWISE.
2. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWING CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.



KEY PLAN

LOS ANGELES COUNTY DATA CENTER
7471 DESCANSO
DOWNEY, CA 90242

CAPITAL PROJECT #: 77416
SPEC #: 5499

Gensler
2500 Broadway
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	Issue	Date & Issue Description	By	Check
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		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT — ANDREW P. COMOS — No. C 12855 Rem. 12-31-11 — STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
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Description
BUILDING SECTIONS & ROOF DRAIN DETAILS
POWER BUILDING

Scale
1/8"=1'-0"

A09.16

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SCALE: 1/8"=1'-0" BS_POWER.dwg 25

SCALE: 1/8"=1'-0" BS_POWER.dwg 20

SCALE: 1/8"=1'-0" BS_POWER.dwg 15

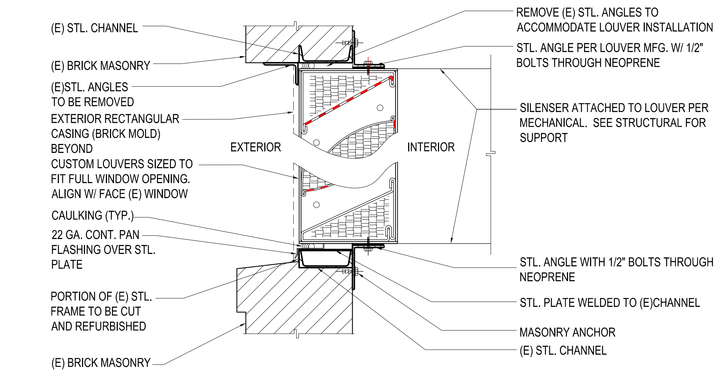
SCALE: 1/8"=1'-0" BS_POWER.dwg 10

SCALE: 1/8"=1'-0" BS_POWER.dwg 05

SCALE: 1/8"=1'-0" BS_POWER.dwg 24

SCALE: 1/8"=1'-0" BS_POWER.dwg 19

SCALE: 1/8"=1'-0" BS_POWER.dwg 14

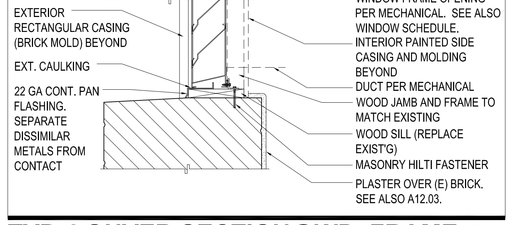


NOTE: ALL STL. MULLIONS/MUNTINS TO BE REMOVED/CUT TO ACCOMMODATE LOUVER INSTALLATION UNLESS NOTED OTHERWISE.

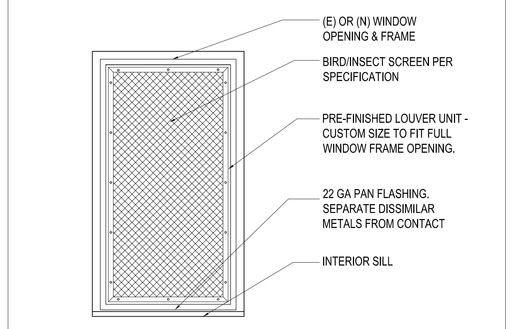
TYP. INTAKE LOUVER @ STL. FRAME WITH SILENCERS
SCALE: 1/8"=1'-0" BS_POWER.dwg 04

SCALE: 1/8"=1'-0" BS_POWER.dwg 23

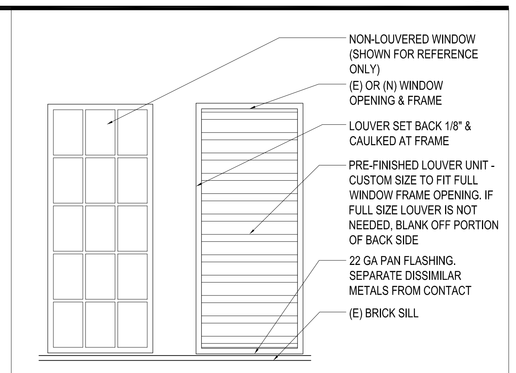
SCALE: 1/8"=1'-0" BS_POWER.dwg 18



TYP. LOUVER SECTION@WD. FRAME
SCALE: N.T.S. BS_POWER.dwg 13



TYP. LOUVER INTERIOR ELEVATION
SCALE: 1/8"=1'-0" BS_POWER.dwg 08

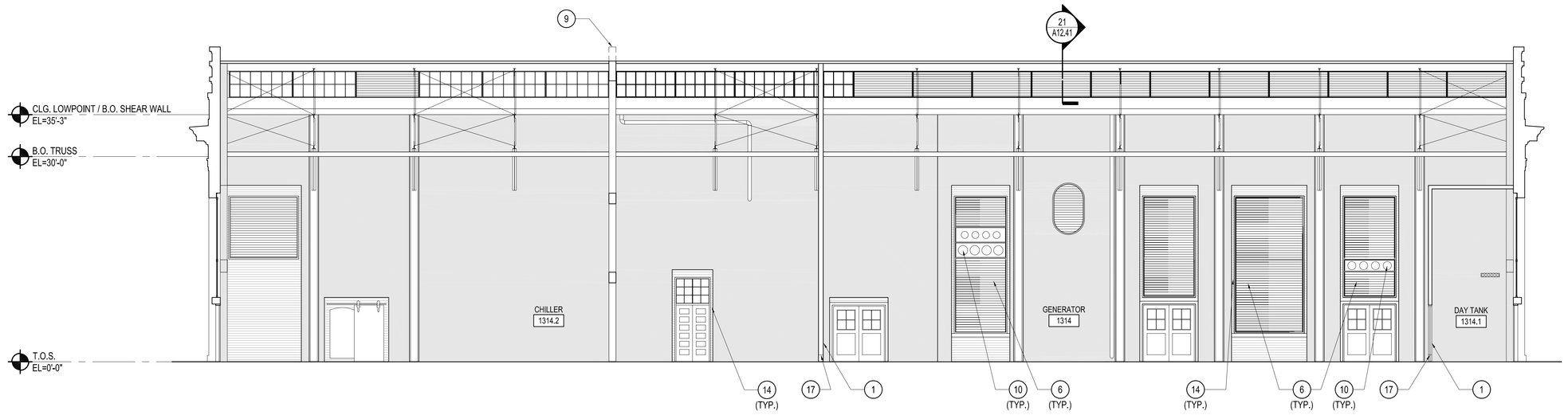


NOTE: COORDINATE AREA REQUIREMENTS WITH MECHANICAL

TYP. LOUVER EXTERIOR ELEVATION
SCALE: N.T.S. BS_POWER.dwg 03

SCALE: 1/8"=1'-0" BS_POWER.dwg 22

SCALE: 1/8"=1'-0" BS_POWER.dwg 21



NORTH/SOUTH BUILDING SECTION - POWER BUILDING
SCALE: 1/8"=1'-0" BS_POWER.dwg 01

KEY NOTES

1. METAL STUD FRAMED WALL AND/OR CEILING.
2. LINE OF FINISH CEILING PER SCHDULE.
3. EDGE OF CONCRETE SHEAR WALL.
4. EXISTING STRUCTURE.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM (E) EXTERIOR FACE.
6. AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
7. ROOF DRAIN LEADER. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
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11. RETROFIT/REBUILD (E) SKYLIGHT STRUCTURE. SEE A08.02.
12. REPAIR/REFURBISH (E) SHEATHING. SEE A08.02.
13. LIGHT FIXTURES PER REFLECTED CEILING PLAN AND ELECTRICAL. SEE 15/A09.15 FOR MOUNTING DETAIL.
14. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGE PIECES TO MATCH EXISTING.
15. REPLACE (E) CEILING WITH PLASTER CEILING (TYP.)
16. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.
17. EXPOSED CONCRETE CURB.

SHEET NOTES

1. REPLACE DAMAGED OR MISSING BRICK AT EXPOSED LOCATIONS. NEW MATERIAL TO MATCH EXISTING.
2. PATCH AND REPAIR CONCRETE SILLS AS REQUIRED.
3. ALL NEW AND EXISTING EXPOSED STEEL TO BE PAINTED.
4. SHOTCRETE OVERLAY TO HAVE A SMOOTH TROWEL FINISH. EXPOSED CORNERS AT OPENINGS TO BE FORMED WITH 90 DEGREE RETURNS AND CHAMFERED EDGES.
5. BACK PRIME ALL WOOD.
6. BOTTOM END OF ALL FRAMES AND TRIM SHALL BE TREATED AFTER BEING CUT TO FIT SILL/THRESHOLD.
7. BEVEL BOTTOM OF DOOR TO DRIP
8. ATTACHMENT AT JAMBS SHALL EITHER BE TO EXISTING BLOCKS, BUCKS OR WITH EXPANSION ANCHORS AND COUNTERSUNK SCREWS.
9. VERIFY THAT HINGES AND STRIKES HAVE BACKINGS.
10. ALL MATERIALS AND SCOPE NOTED ARE NEW UNLESS NOTED OTHERWISE.
11. ALL VERTICAL STL. MULLIONS ALONG EDGE OF BRICK OPENING SHALL BE CUT TO FLUSH WITH SURFACE OF BRICK JAMB TO ALLOW LOUVER INSTALLATION.
12. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION ON LOUVER AND DAMPER REQUIREMENTS.
13. VERIFY ALL FIELD CONDITION FOR JAMB, HEAD AND SILL AND NOTIFY ANY DISCREPANCY TO THE ATTENTION OF THE ARCHITECT PRIOR TO COMMENCING WORK.

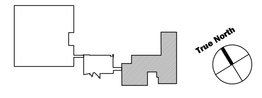
LEGEND

SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

1. ALL MATERIAL AND WORK CALLED OUT OR SHOWN ON PLAN IS NEW UNLESS NOTED OTHERWISE.
2. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWING CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.

KEY PLAN



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		PLAN CHECK RESUBMITTAL		

Seal/Signature

LICENSED ARCHITECT ANDREW P. CORBIN No. C 12855 Ren. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\Sheets\A09-18.dwg

Description
BUILDING SECTIONS & LOUVER SECTIONS/DETAILS @ POWER BUILDING

Scale
1/8"=1'-0"

A09.18

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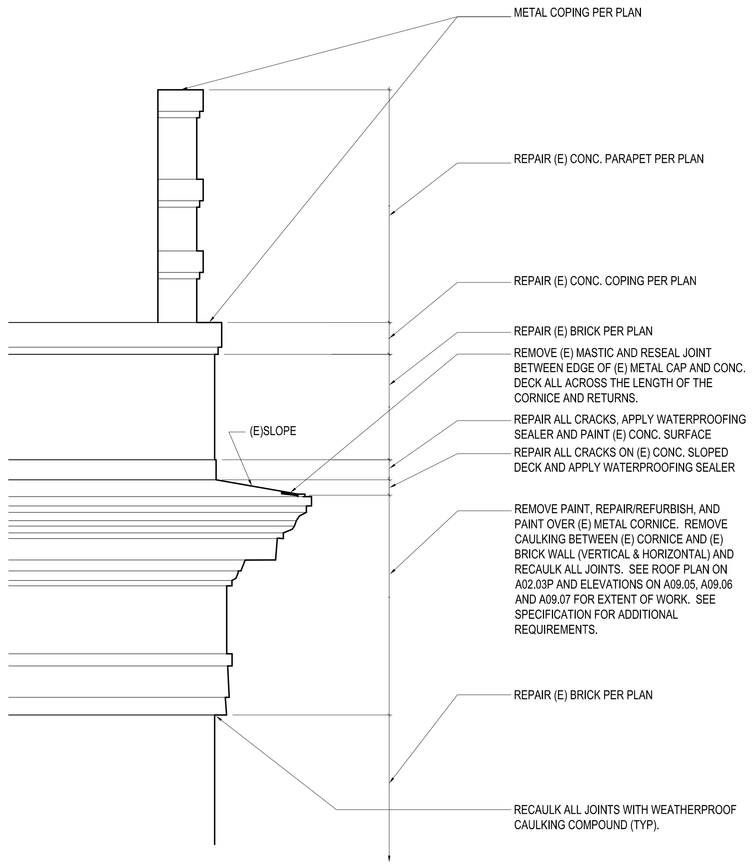
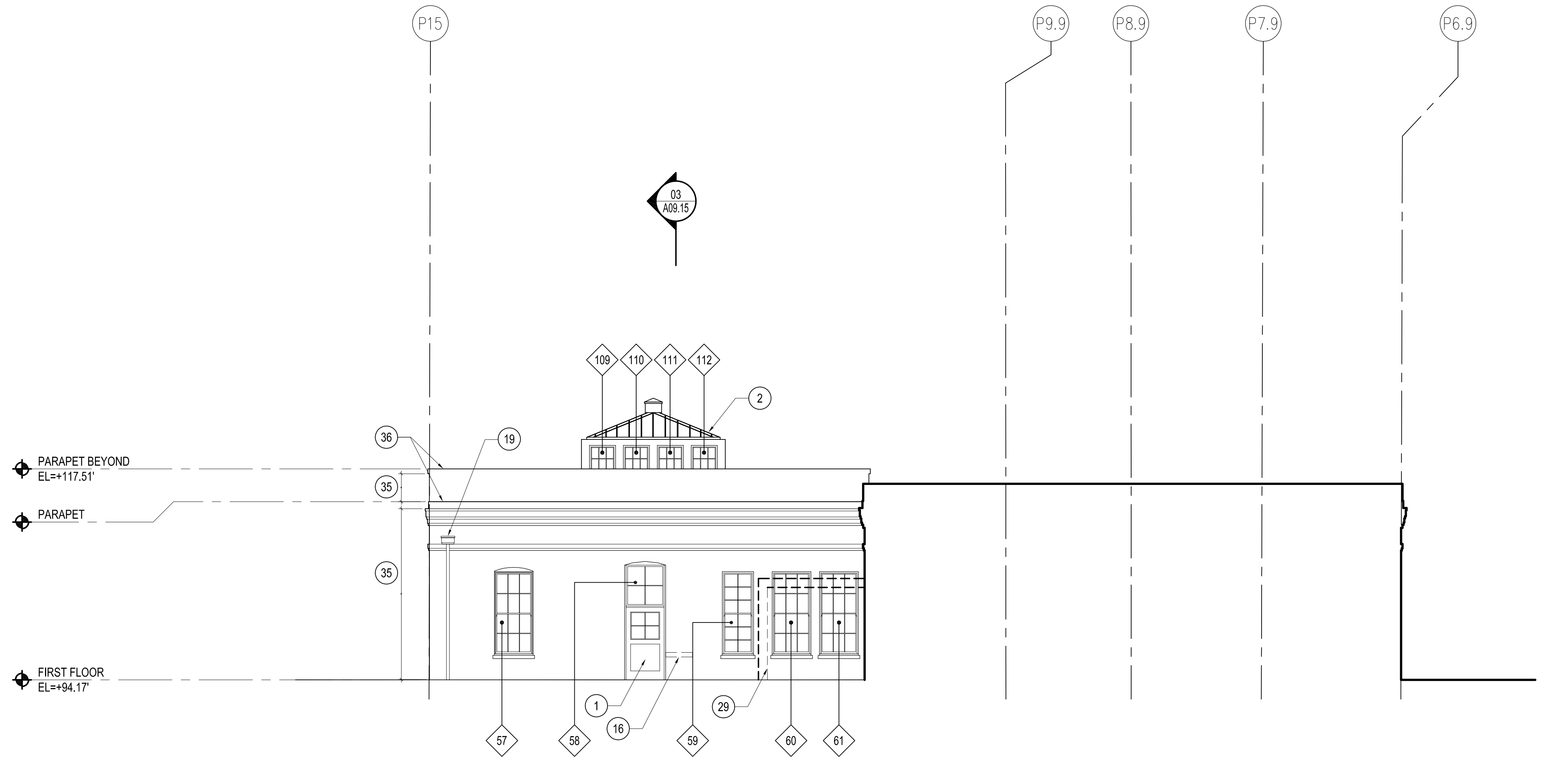


NOTE:
FIELD VERIFY EXISTING CONDITION AT THE TIME OF BIDDING FOR ACCURATE ASSESSMENT OF DAMAGE AND EXTENT OF REQUIRED REPAIR

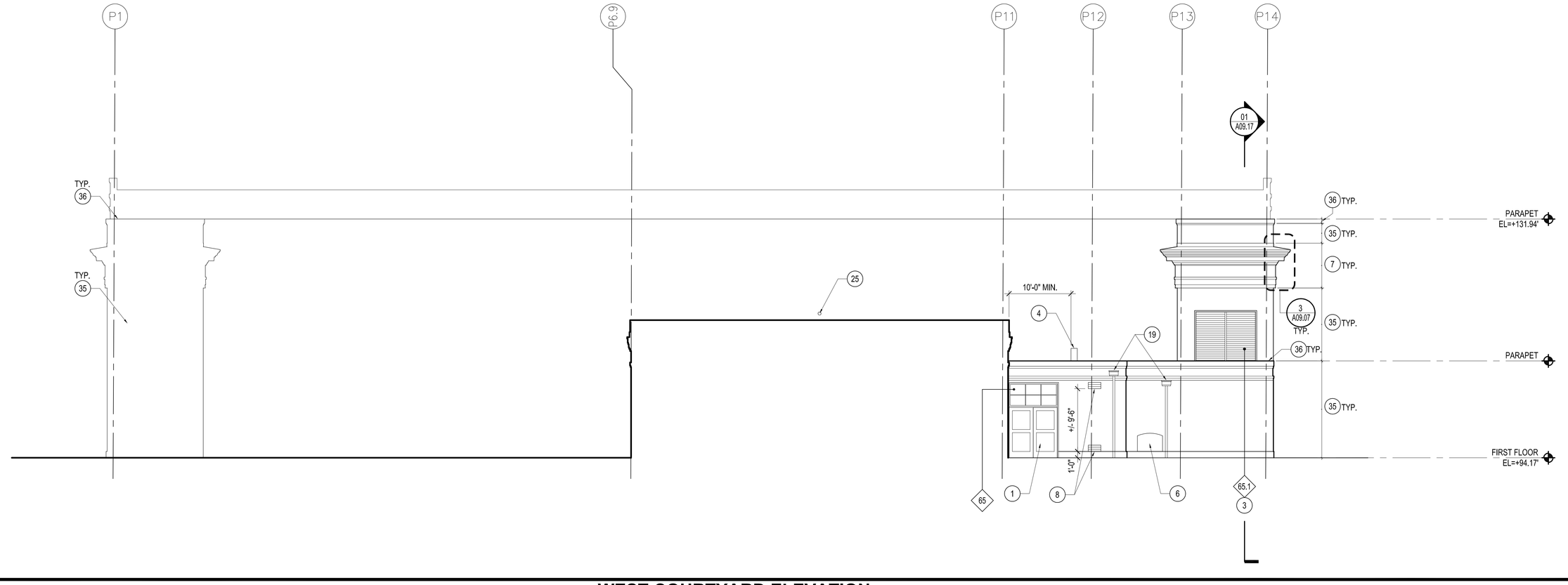
ENLARGED PROFILE @ METAL CORNICE

SCALE: 1/2"=1'=0" EE_0906-96.dwg **03**



EAST COURTYARD ELEVATION

SCALE: 1/8"=1'=0" EE_0906-96.dwg **02**



WEST COURTYARD ELEVATION

SCALE: 1/8"=1'=0" EE_0906-96.dwg **01**

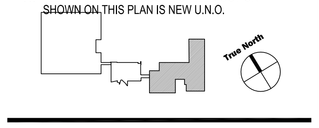
KEY NOTES

1. PAINTED CUSTOM DOOR, FRAME, AND HARDWARE. SEE DOOR SCHEDULE.
2. REBUILD/REFURBISH EXISTING SKYLIGHT, CURBS, WALLS AND REGLAZE. SEE A08.02 AND STRUCTURAL DRAWINGS FOR SCOPE.
3. PAINTED CUSTOM MECHANICAL LOUVERS BEHIND EXISTING/NEW WINDOW FRAME PER WINDOW SCHEDULE. SEE MECH. DRAWINGS FOR PIPE PENETRATIONS. PROVIDE WATER PROOFING AT ALL PENETRATIONS. SEE A09.18
4. PAINTED MECHANICAL FLUE SHOWN FOR REFERENCE. SEE MECHANICAL DRAWINGS.
5. MECHANICAL PIPING. SEE MECHANICAL DRAWINGS. PROVIDE WATERPROOFING.
6. INFILL EXISTING WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE EXISTING COURSING AND RECESS INFILL 1" FROM EXISTING EXTERIOR FACE.
7. REFURBISH AND PAINT (E) METAL CORNICE. RESEAL JOINT BETWEEN METAL CAP AND CONCRETE DECK AT CORNICE PER 3/A09.07. FIELD VERIFY CONDITION OF (E) CORNICE.
8. MECHANICAL LOUVERS. SEE MECH. DRAWINGS.
9. DAY TANK VENT OPENINGS. REMOVE FULL BRICKS FOR OPENINGS. PROVIDE FLASHING AND WATERPROOFING. SEE PENETRATION DETAILS AND REQUIREMENTS ON 19/A12.00.
10. REFURBISH AND PAINT (E) ROOF ACCESS LADDER.
11. PAINTED FIXED CAGED ROOF ACCESS LADDER TO MATCH EXISTING.
12. GOOSENECK EXTERIOR LIGHT FIXTURE TO MATCH EXISTING OR ORIGINAL. SEE ALSO ELECTRICAL.
13. ROOF DRAIN OUTLET.
14. PATCH AND REPAIR OPENING AND CONCRETE CURB AT (E) ROOF DRAIN LOCATION.
15. INFILL EXISTING OPENING FLUSH WITH EXTERIOR FACADE. MATERIAL AND COURSING TO MATCH EXISTING.
16. REMOVE (E) ANGLES AND REMAINING DOOR / WINDOW / GATE ACCESSORIES.
17. CUSTOM TRANSOM WINDOW TO MATCH (E) STEEL WINDOWS.
18. REMOVE (E) INFILL MATERIAL AT JOINT AND REPOINT.
19. PAINTED CUSTOM CONDUCTOR HEAD AND DOWNSPOUT TO MATCH EXISTING DESIGN. TERMINATE DOWNSPOUT AT GRADE ABOVE NEW SPLASH BLOCK.
20. ROOF SCUPPER, PROFILE AND MATERIAL TO MATCH EXISTING.
21. REPAIR AND PAINT (E) STUCCO PLASTER.
22. REFURBISH AND PAINT (E) METAL GRILLES.
23. REMOVE (E) HOLLOW TILE STUCCO WALL.
24. CONCRETE SILL TO MATCH EXISTING.
25. ROOF DRAIN AT (E) BUILDING OUTLET.
26. REFURBISH AND PAINT (E) METAL CLAD WOOD DOORS.
27. REPAIR AND PAINT (E) STUCCO PLASTER HEADER.
28. PAINTED CONC. HEADER. VERIFY HEADER IN FIELD.
29. REFURBISH AND PAINT (E) GANTRY STRUCTURE.
30. PATCH AND PAINT (E) STUCCO PLASTER COLUMN AND BASE.
31. REFURBISH (E) LIGHT FIXTURE.
32. (E) WATER TOWER AND TANK TO BE PAINTED WITH HIGH PERFORMANCE PAINT. SEE SPECIFICATION FOR PROCEDURES ON PAINT REMOVAL AND PREPARATION WORK. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
33. (E) CHIMNEY. SEE STRUCTURAL FOR STRUCTURAL UPGRADE WORK.
34. STRUCTURAL RETROFIT AND RELATED ARCHITECTURAL WORK. SEE A08.01 AND CORRESPONDING STRUCTURAL DRAWINGS
35. REMOVE (E) PAINT AND COATINGS; REPOINT, CLEAN AND RESTORE TO ORIGINAL BRICK FINISH; AND APPLY SPECIFIED SEALER.
36. REPAIR (E) CONC. OR MASONRY COPING AND APPLY PAINT. SEE ALSO PARAPET & ROOFING DETAILS FOR ADDITIONAL SCOPE.
37. REPAIR/REPLACE (E) CLERESTORY WINDOWS. SEE WINDOW SCHEDULE AND CORRESPONDING DETAILS.
38. REPAIR (E) DAMAGED BRICK MASONRY. REPLACE BRICKS AS NEEDED TO MATCH ADJACENT SURFACES.
39. OPENING FOR MECHANICAL DUCTS AND/OR PIPES (TYP). SEE MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTRUAL DRAWINGS FOR REQUIRED COORDINATION.

SHEET NOTES

1. REFER TO THE SPECIFICATION FOR DESCRIPTION AND PROCEDURES OF REQUIRED HISTORIC TREATMENT FOR "REFURBISH" AND "REPAIR" SCOPE.
2. REMOVE EXISTING PAINT AND COATINGS FROM THE EXTERIOR MASONRY AND EXTERIOR SURFACES. RESTORE AND CLEAN TO ORIGINAL UNFINISHED CONDITION AND APPLY SELAER PER SPECIFICATION.
3. REMOVE ALL ELECTRICAL CONDUIT, ELECTRICAL DEVICES, LIGHT FIXTURES, VENT COVERS, MISC. METAL AND MISC. PLUMBING LINES ON BUILDING FACADE.
4. PATCH, REPAIR, CLEAN AND SEAL CONCRETE BASE, SILL AND PARAPET CAP AS REQUIRED.
5. RESEAL TRANSITION BETWEEN METAL CORNICE AND BRICK AS REQUIRED. SEE SPECIFICATION.
6. REPOINT ENTIRE EXISTING MASONRY FACADE. APPLY PROTECTIVE MASONRY SEALER AT ALL BRICK MASONRY SURFACES.
7. PATCH AND REPAIR HOLES IN EXISTING FACADE TO MATCH SURROUNDING FIELD. REPLACE DAMAGED OR MISSING BRICK AT FACADE, WINDOW SILL AND PARAPET AS REQUIRED. NEW MATERIAL TO MATCH EXISTING. PROVIDE ALLOWANCE OF 600 UNITS OF BRICK REPLACEMENT OVERALL BEYOND SCOPE SPECIFICALLY IDENTIFIED ON PLAN. PROVIDE UNIT PRICE AT THE TIME OF BIDDING.
8. REGLAZE EXISTING WINDOWS. REFER TO ARCHITECTURAL WINDOW SCHEDULE FOR GLASS TYPE AND SCOPE.
9. REPAIR, REFURBISH AND PAINT EXISTING STEEL AND WOOD WINDOW FRAMES. SEE ARCHITECTURAL WINDOW SCHEDULE.
10. SEE DOOR SCHEDULE FOR NEW AND REFURBISH SCOPE.
11. ALL MATERIAL AND SCOPE CALLED OUT OR SHOWN ON THIS PLAN IS NEW U.N.O.

KEY PLAN



LOS ANGELES COUNTY DATA CENTER
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DOWNEY, CA 90242

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SPEC #: 5499

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△	Issue	Date & Issue Description	By	Check
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		50% CD DATA-ENTRY, 100% DD POWER BLDG		
--	03	12/11/08	LA/NB	LA/NB
		90% CONSTRUCTION DOCUMENTS		
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--	08	04/01/11	LA/NB	LA/NB
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Seal/Signature

LICENSED ARCHITECT
ANDREW P. CONGER
No. C 12855
Ren. 12-31-11
STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
L:\05.3077.000\CAD\SHEETS\A09-07.dwg

Description
EXTERIOR ELEVATIONS POWER BUILDING

Scale
1/8"=1'-0"

A09.07

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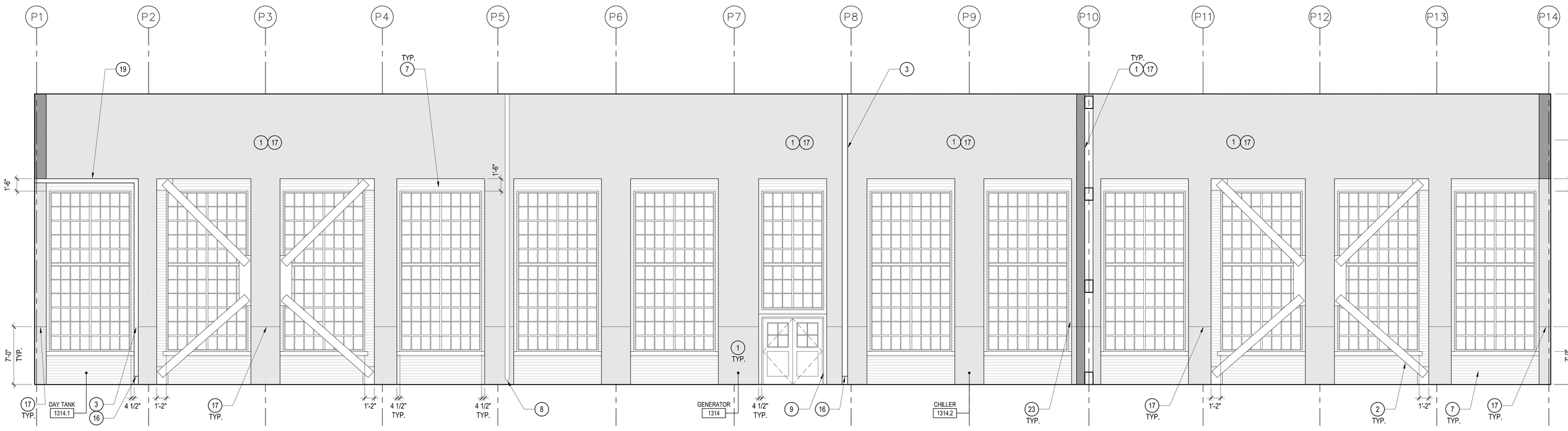
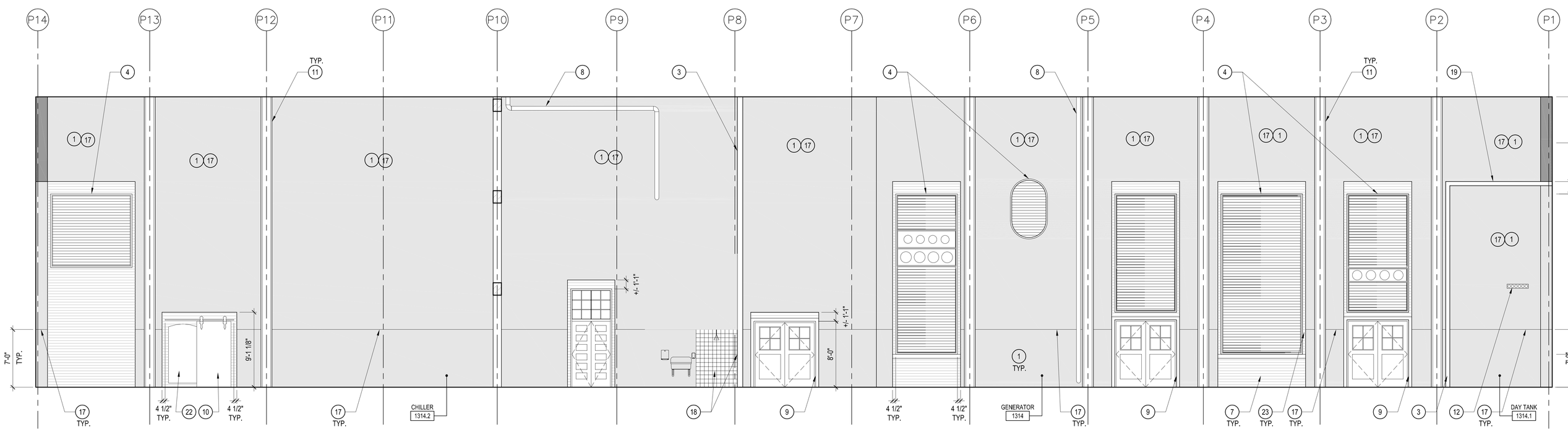


WALL ELEVATION

SCALE: 3/16"=1'-0" IE_POWER-64.dwg

02



WALL ELEVATION

SCALE: 3/16"=1'-0" IE_POWER-64.dwg

01

KEY NOTES

1. SHOTCRETE OVERLAY TO EXISTING WALL. SEE STRUCTURAL DRAWINGS.
2. PAINTED BUCKLING RESTRAINED BRACES WITH GUSSETS. SEE STRUCTURAL DRAWINGS.
3. METAL STUD WALL PER PLAN.
4. PAINTED AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM EXISTING WALL FACE.
6. INFILL EXISTING WALL OPENING WITH METAL STUD WALL.
7. (E) BRICK WALL TO REMAIN. PROTECT IN PLACE.
8. ROOF DRAIN LEADER. UTILIZE (E) WALL OPENING. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
9. PAINTED WOOD DOOR TRIM TO MATCH EXISTING.
10. (E) DOOR AND HARDWARE TO REMAIN. PROTECT IN PLACE.
11. REVEALS IN SHOTCRETE OVERLAY AT EXPOSED (E) STEEL COLUMNS.
12. WALL OPENING FOR DAY TANK VENTING WITH SCREEN. SEE FUEL OIL DRAWINGS. REMOVE FULL BRICKS TO CREATE OPENING. PROVIDE FLASHING AND WATERPROOFING AT NEW OPENINGS AS REQUIRED TO MAINTAIN WATERPROOFING OF THE BUILDING.
13. ROOF DRAIN LEADER. RELOCATE WALL OPENING AND PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
14. (E) WALL OPENING TO REMAIN.
15. DEPRESSED SLAB.
16. EXPOSED CONCRETE CURB
17. ACOUSTICAL BOARD OVER SHOTCRETE WALL 7' AFF (TYP.)
18. CERAMIC TILE WAINSCOAT.
19. ONE-HOUR RATED CEILING ASSEMBLY. FILL ALL PENETRATION AND SLEEVE AROUND PIPES WITH UL-APPROVED MATERIAL PER 19/A12.00. SEE PARTITION TYPE 15 IN A12.03.
20. GYP. BD. CEILING, PAINTED SUPPORTED WITH METAL CHANNELS ABV. PER 1 & 4/A12.01.
21. SMOOTH PLASTER FINISH PAINTED OVER (E) BRICK.
22. CUSTOM SLIDING METAL DOOR AND FRAME TO MATCH EXISTING. PROVIDE DESIGN/BUILD DOOR FOR REVIEW PRIOR TO FABRICATION.
23. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGED PIECES TO MATCH EXISTING.
24. CEILING PER CEILING PLAN.
25. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.

LEGEND

SHOTCRETE OVERLAY TO EXISTING WALLS.

EXISTING BRICK WALL TO REMAIN.

GENERAL NOTES

1. REPLACE DAMAGED OR MISSING BRICK AT EXPOSED LOCATIONS. NEW MATERIAL TO MATCH EXISTING.
2. PATCH AND REPAIR CONCRETE SILLS AS REQUIRED.
3. ALL NEW AND EXISTING EXPOSED STEEL TO BE PAINTED.
4. SHOTCRETE OVERLAY TO HAVE A SMOOTH TROWEL FINISH. EXPOSED CORNERS AT OPENINGS TO BE FORMED WITH 90 DEGREE RETURNS AND CHAMFERED EDGES.
5. ALL MATERIALS AND SCOPE CALLED OUT OR SHOWN ON PLAN IS NEW U.N.O.
6. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWINGS CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.

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	Issue	Date & Issue Description	By	Check
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--	02	05/30/08	LA/NB	LA/NB
		50% CD DATA-ENTRY, 100% DD POWER BLDG		
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Seal/Signature

LICENSED ARCHITECT ANDREW P. CURRY No. C 12855 Ren. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
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Description
INTERIOR ELEVATIONS - POWER BUILDING

Scale
3/16"=1'-0"

A11.06

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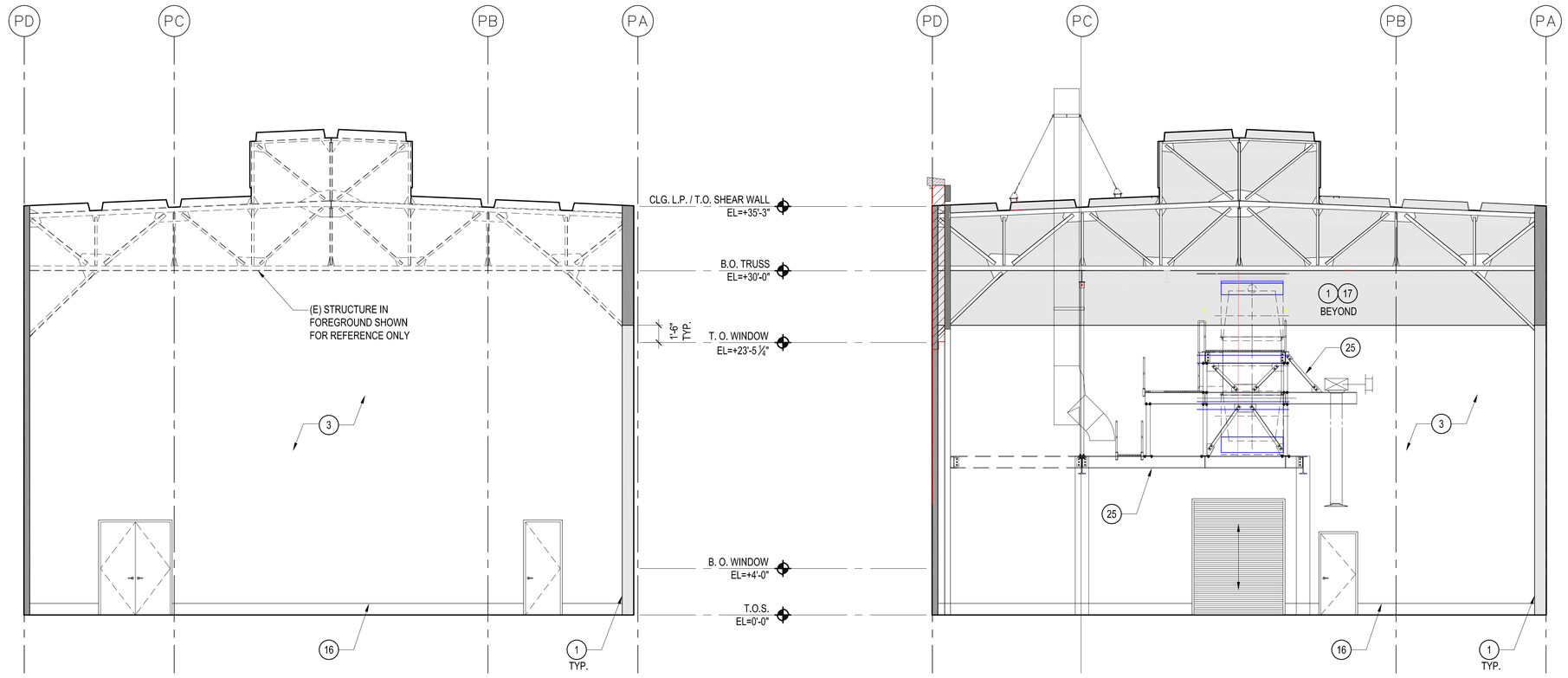
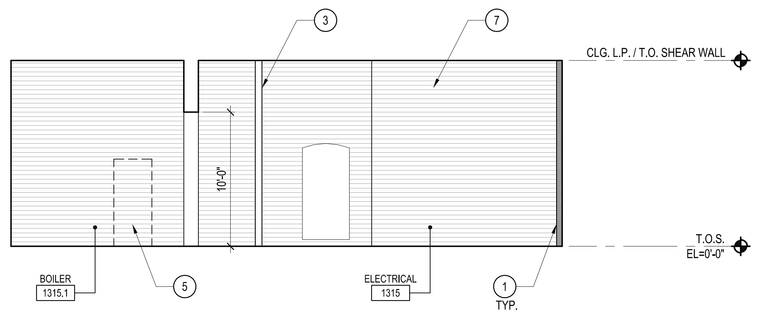


WALL ELEVATION 06
SCALE: 3/16"=1'-0" IE_POWER-64.dwg

WALL ELEVATION 03
SCALE: 3/16"=1'-0" IE_POWER-64.dwg



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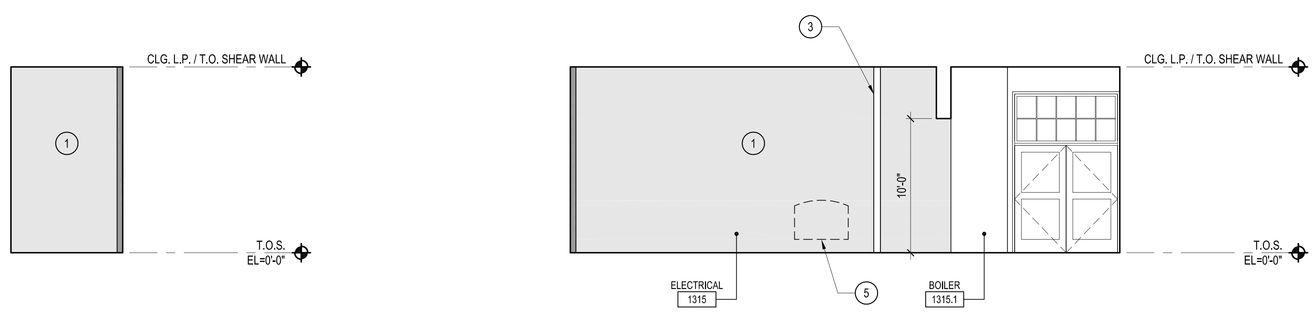

WALL ELEVATION 07
SCALE: 3/16"=1'-0" IE_POWER-64.dwg

WALL ELEVATION 05
SCALE: 3/16"=1'-0" IE_POWER-64.dwg

WALL ELEVATION 04
SCALE: 3/16"=1'-0" IE_POWER-64.dwg

WALL ELEVATION 01
SCALE: 3/16"=1'-0" IE_POWER-64.dwg

KEY NOTES

1. SHOTCRETE OVERLAY TO (E) WALL. SEE STRUCTURAL DRAWINGS.
2. PAINTED BUCKLING RESTRAINED BRACES WITH GUSSETS. SEE STRUCTURAL DRAWINGS.
3. METAL STUD WALL PER PLAN.
4. PAINTED AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
5. INFILL (E) WALL OPENING, MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM EXISTING WALL FACE.
6. INFILL (E) WALL OPENING WITH METAL STUD WALL.
7. (E) BRICK WALL TO REMAIN. PROTECT IN PLACE.
8. ROOF DRAIN LEADER. UTILIZE (E) WALL OPENING. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
9. PAINTED WOOD DOOR TRIM TO MATCH EXISTING.
10. (E) DOOR AND HARDWARE TO REMAIN. PROTECT IN PLACE.
11. REVEALS IN SHOTCRETE OVERLAY AT EXPOSED (E) STEEL COLUMNS.
12. WALL OPENING FOR DAY TANK VENTING. SEE FUEL OIL DRAWINGS. REMOVE FULL BRICKS TO CREATE OPENING. PROVIDE FLASHING AND WATERPROOFING AT NEW OPENINGS AS REQUIRED TO MAINTAIN WATERPROOFING OF THE BUILDING.
13. ROOF DRAIN LEADER. RELOCATE WALL OPENING AND PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
14. (E) WALL OPENING TO REMAIN.
15. DEPRESSED SLAB.
16. EXPOSED CONCRETE CURB
17. ACOUSTICAL BOARD OVER SHOTCRETE WALL.
18. CERAMIC TILE WAINSCOAT.
19. ONE-HOUR RATED CEILING ASSEMBLY. FILL ALL PENETRATION AND SLEEVE AROUND PIPES WITH UL-APPROVED MATERIAL PER 19/A12.00. SEE PARTITION TYPE 15 IN A12.03.
20. GYP. BD. CEILING, PAINTED SUPPORTED WITH METAL CHANNELS ABV. PER 1 & 4/A12.01.
21. SMOOTH PLASTER FINISH PAINTED OVER EXISTING BRICK.
22. CUSTOM SLIDING METAL DOOR AND FRAME TO MATCH EXISTING. PROVIDE DESIGN/BUILD DOOR FOR REVIEW PRIOR TO FABRICATION.
23. (E) BRICK SURROUND TO REMAIN. PROTECT IN PLACE. REPLACE BROKEN OR DAMAGED PIECES TO MATCH EXISTING.
24. CEILING PER CEILING PLAN.
25. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.

LEGEND

- SHOTCRETE OVERLAY TO EXISTING WALLS.
- EXISTING BRICK WALL TO REMAIN.

GENERAL NOTES

1. REPLACE DAMAGED OR MISSING BRICK AT EXPOSED LOCATIONS. NEW MATERIAL TO MATCH EXISTING.
2. PATCH AND REPAIR CONCRETE SILLS AS REQUIRED.
3. ALL NEW AND EXISTING EXPOSED STEEL TO BE PAINTED.
4. SHOTCRETE OVERLAY TO HAVE A SMOOTH TROWEL FINISH. EXPOSED CORNERS AT OPENINGS TO BE FORMED WITH 90 DEGREE RETURNS AND CHAMFERED EDGES.
5. ALL MATERIALS AND SCOPE CALLED OUT OR SHOWN ON PLAN IS NEW U.N.O.
6. EQUIPMENT AND FIXTURES NOT SHOWN FOR DRAWINGS CLARITY. SEE STRUCTURAL AND MEP DRAWINGS FOR INFORMATION ON EQUIPMENT ACCESS SUCH AS CATWALKS AND LADDERS NOT SHOWN ON THIS PLAN.

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Issue	Date & Issue Description	By	Check
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-- 02	05/30/08	LA/NB	LA/NB
	50% CD DATA-ENTRY, 100% DD POWER BLDG		
-- 03	12/11/08	LA/NB	LA/NB
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-- 08	12/17/10	LA/NB	LA/NB
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Seal/Signature

LICENSED ARCHITECT — ANDREW P. CONDIT — No. C 12855 — Rens. 12-31-11 — STATE OF CALIFORNIA

Project Name
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Project Number
05.3077.000

CAD File Name
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Description
INTERIOR ELEVATIONS - POWER BUILDING

Scale
3/16"=1'-0"

A11.08

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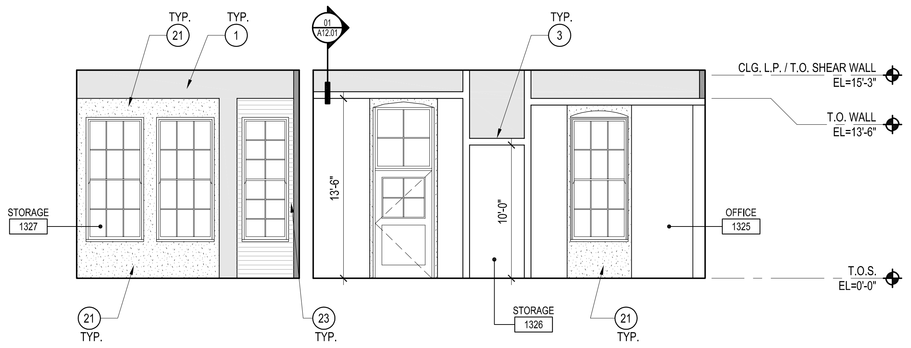

WALL ELEVATION
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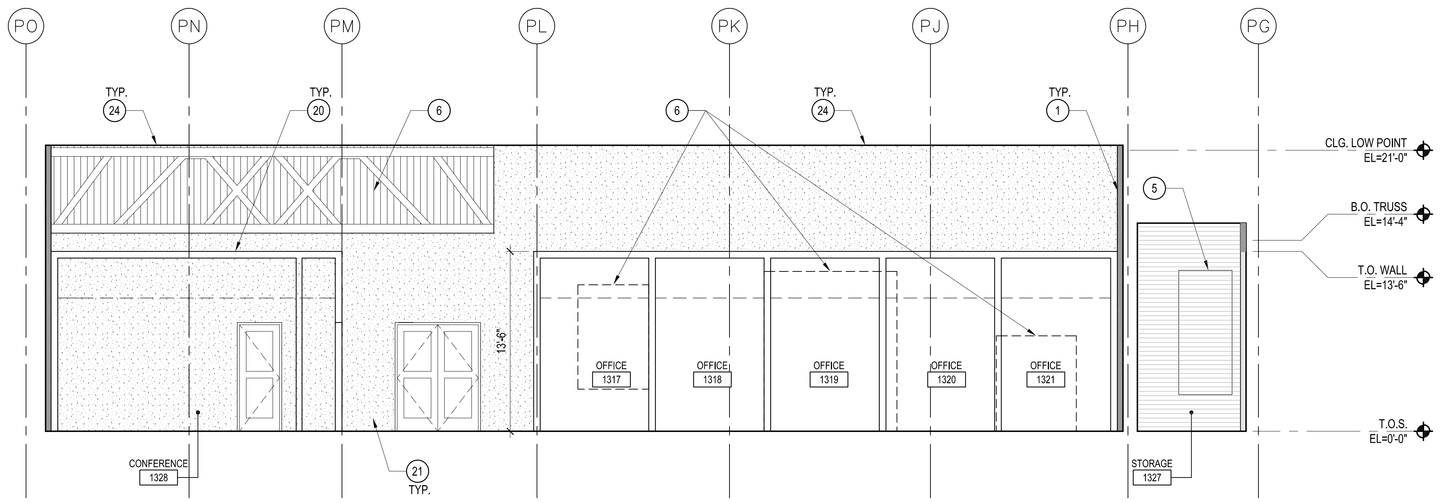

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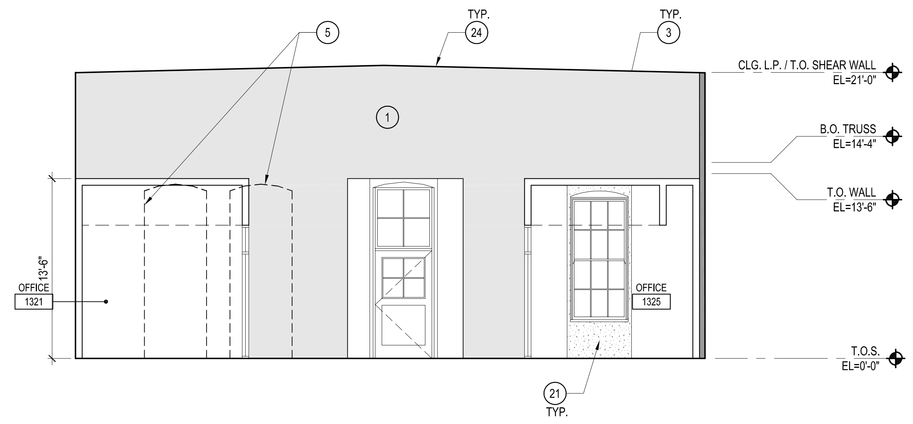

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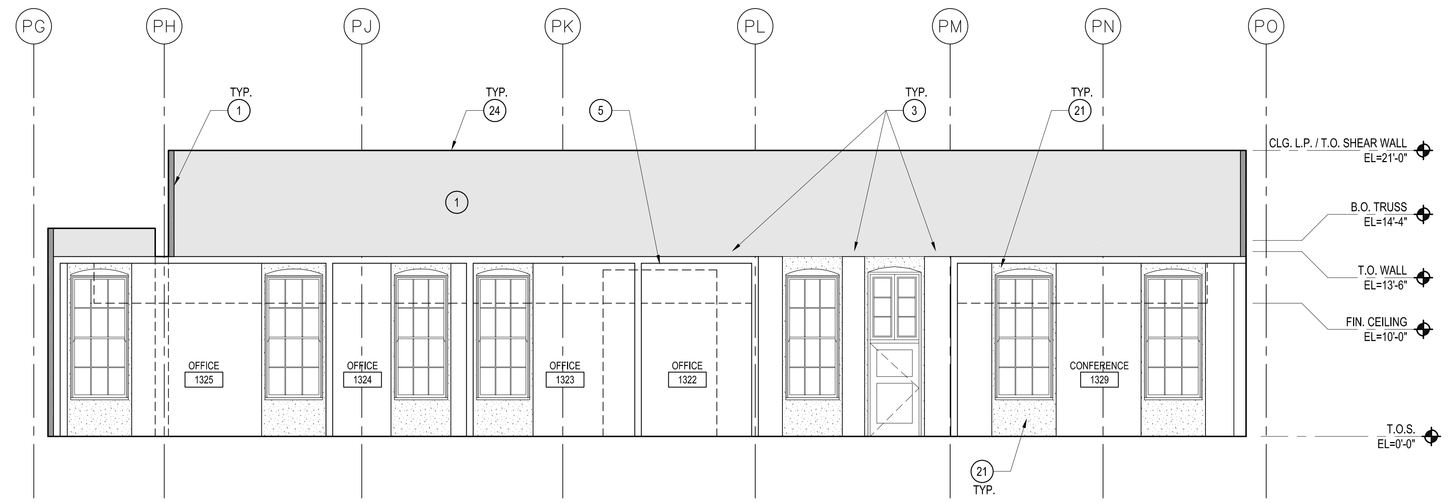

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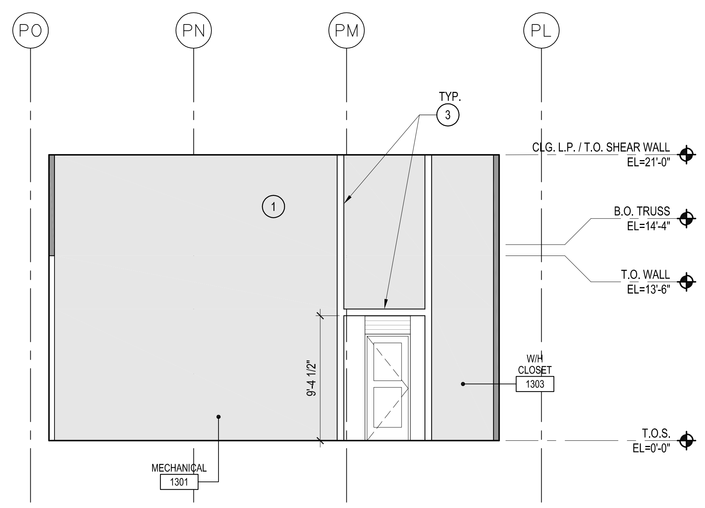

WALL ELEVATION
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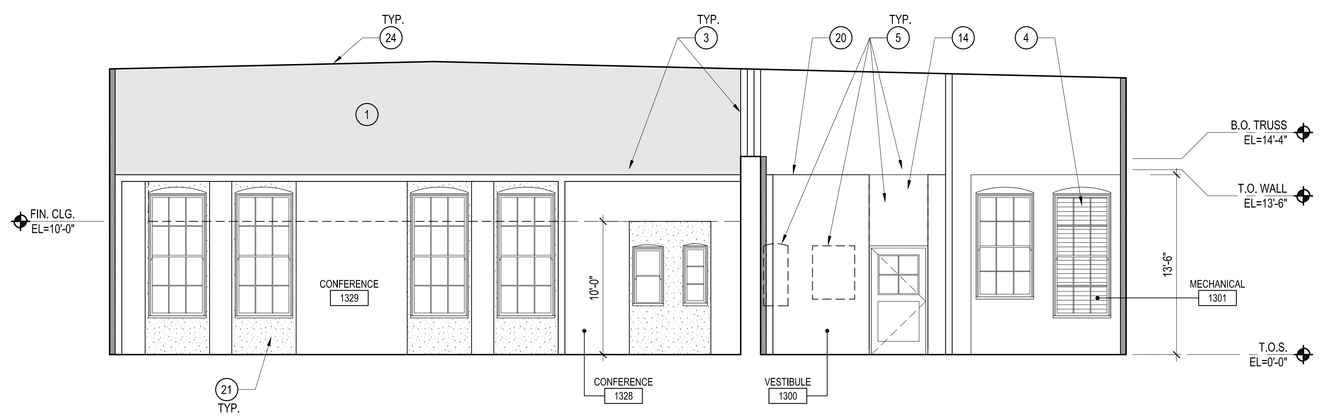

WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **01**

KEY NOTES

1. SHOTCRETE OVERLAY TO (E) WALL. SEE STRUCTURAL DRAWINGS.
2. PAINTED BUCKLING RESTRAINED BRACES WITH GUSSETS. SEE STRUCTURAL DRAWINGS.
3. METAL STUD WALL PER PLAN.
4. PAINTED AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM EXISTING WALL FACE.
6. INFILL (E) WALL OPENING WITH METAL STUD WALL.
7. (E) BRICK WALL TO REMAIN. PROTECT IN PLACE.
8. ROOF DRAIN LEADER. UTILIZE (E) WALL OPENING. PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
9. PAINTED WOOD DOOR TRIM TO MATCH EXISTING.
10. (E) DOOR AND HARDWARE TO REMAIN. PROTECT IN PLACE.
11. REVEALS IN SHOTCRETE OVERLAY AT EXPOSED (E) STEEL COLUMNS.
12. WALL OPENING FOR DAY TANK VENTING. SEE FUEL OIL DRAWINGS. REMOVE FULL BRICKS TO CREATE OPENING. PROVIDE FLASHING AND WATERPROOFING AT NEW OPENINGS AS REQUIRED TO MAINTAIN WATERPROOFING OF THE BUILDING.
13. ROOF DRAIN LEADER. RELOCATE WALL OPENING AND PROVIDE BLOCK OUT IN SHOTCRETE OVERLAY FOR DRAIN BASIN.
14. (E) WALL OPENING TO REMAIN.
15. DEPRESSED SLAB.
16. EXPOSED CONCRETE CURB
17. ACOUSTICAL BOARD OVER SHOTCRETE WALL.
18. CERAMIC TILE WAINSCOAT.
19. ONE-HOUR RATED CEILING ASSEMBLY. FILL ALL PENETRATION AND SLEEVE AROUND PIPES WITH UL-APPROVED MATERIAL PER 19/A12.00. SEE PARTITION TYPE 15 IN A12.03.
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24. CEILING PER CEILING PLAN.
25. NETWORK OF EQUIPMENT ACCESS CATWALKS AND LADDERS. SEE STRUCTURAL AND MEP DRAWINGS. SEE 11/A09.17 FOR TYP. LADDER DIMENSION REQUIREMENTS.

LEGEND

- SHOTCRETE OVERLAY TO EXISTING WALLS.
- EXISTING BRICK WALL TO REMAIN.

SHEET NOTES

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2. PATCH AND REPAIR CONCRETE SILLS AS REQUIRED.
3. ALL NEW AND EXISTING EXPOSED STEEL TO BE PAINTED.
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LICENSED ARCHITECT ANDREW P. CORBIN No. C 12855 Exp. 12-31-11 STATE OF CALIFORNIA

Project Name
LA COUNTY DATA CENTER

Project Number
05.3077.000

CAD File Name
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Description
INTERIOR ELEVATIONS - POWER BUILDING

Scale
3/16"=1'-0"

A11.09

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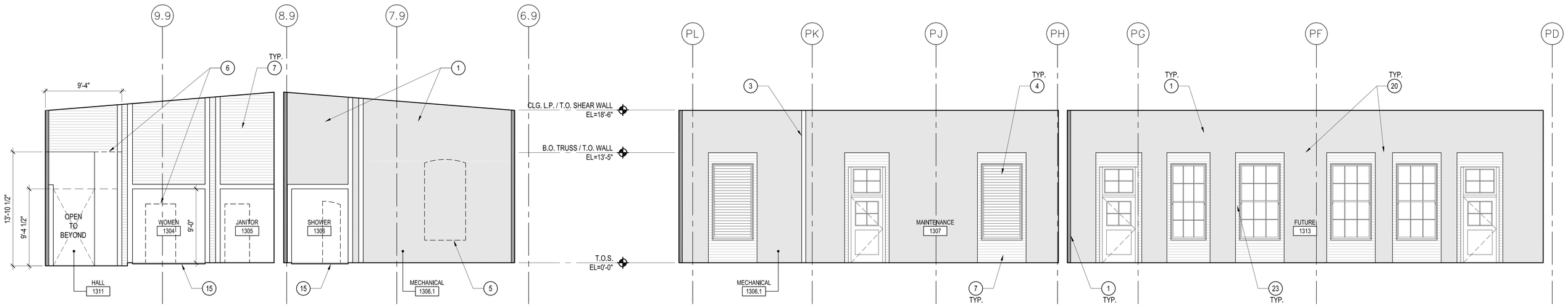

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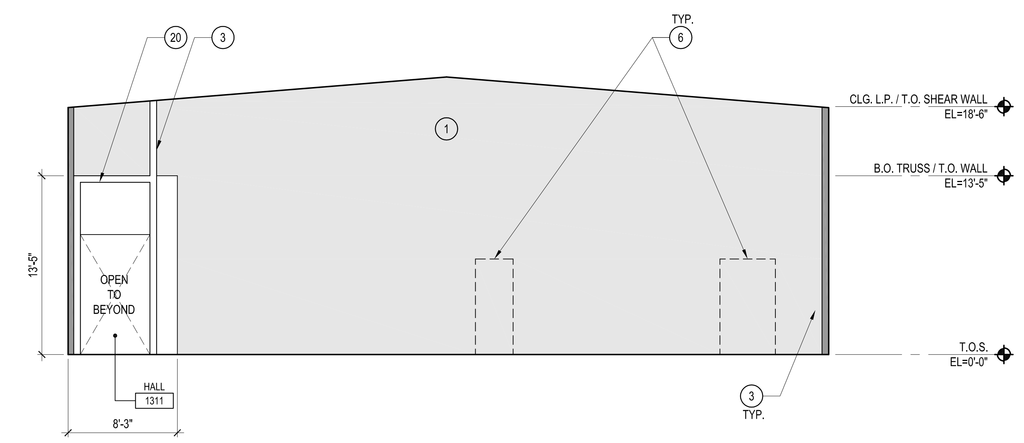

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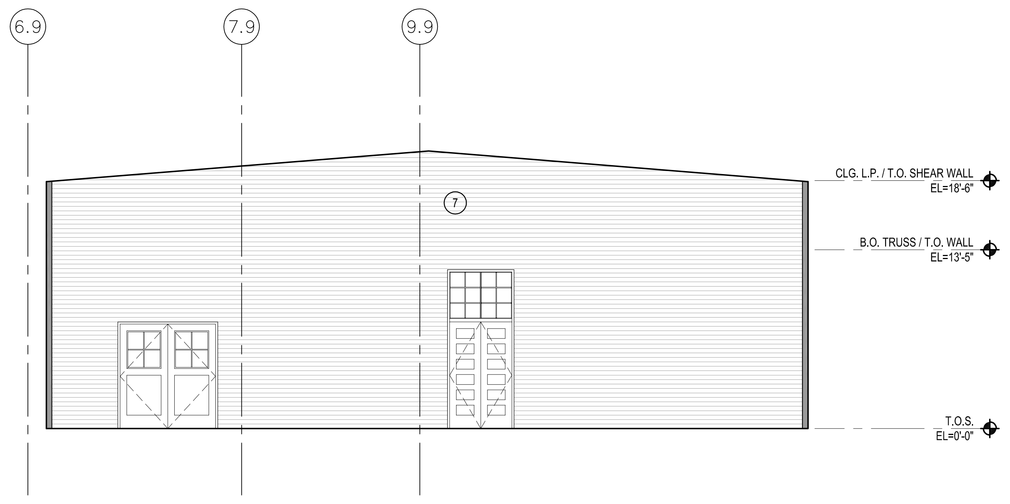

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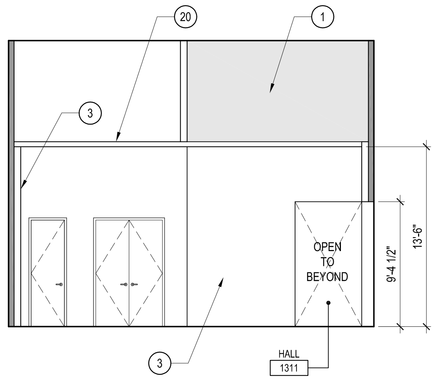

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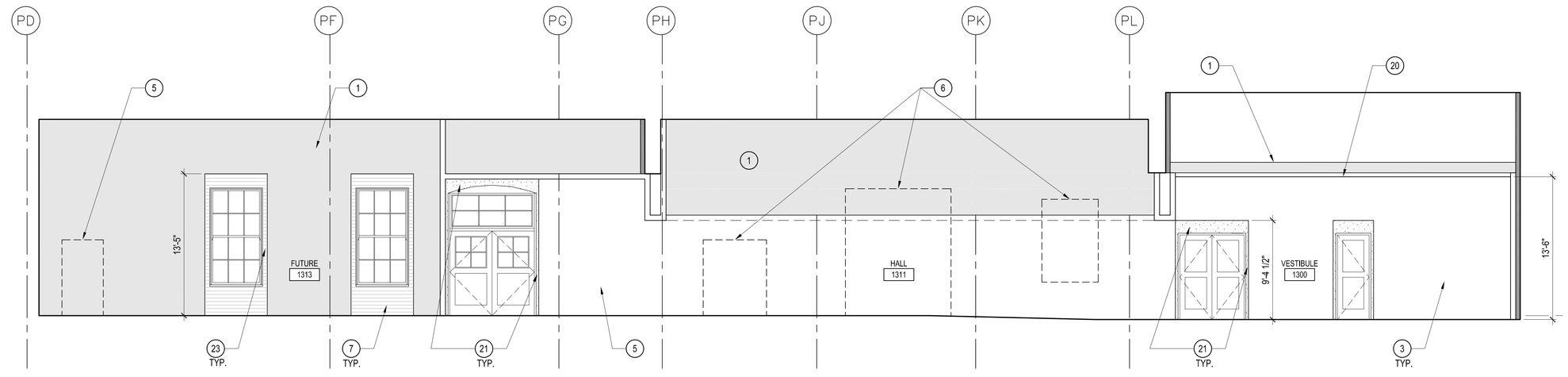

WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **01**

KEY NOTES

1. SHOTCRETE OVERLAY TO (E) WALL. SEE STRUCTURAL DRAWINGS.
2. PAINTED BUCKLING RESTRAINED BRACES WITH GUSSETS. SEE STRUCTURAL DRAWINGS.
3. METAL STUD WALL PER PLAN.
4. PAINTED AIR INTAKE WALL LOUVERS. SEE MECHANICAL DRAWINGS.
5. INFILL (E) WALL OPENING. MATERIAL TO MATCH EXISTING. REPLICATE (E) COURSING AND RECESS INFILL 1" FROM EXISTING WALL FACE.
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7. (E) BRICK WALL TO REMAIN. PROTECT IN PLACE.
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Description
INTERIOR ELEVATIONS - POWER BUILDING

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3/16"=1'-0"

A11.10

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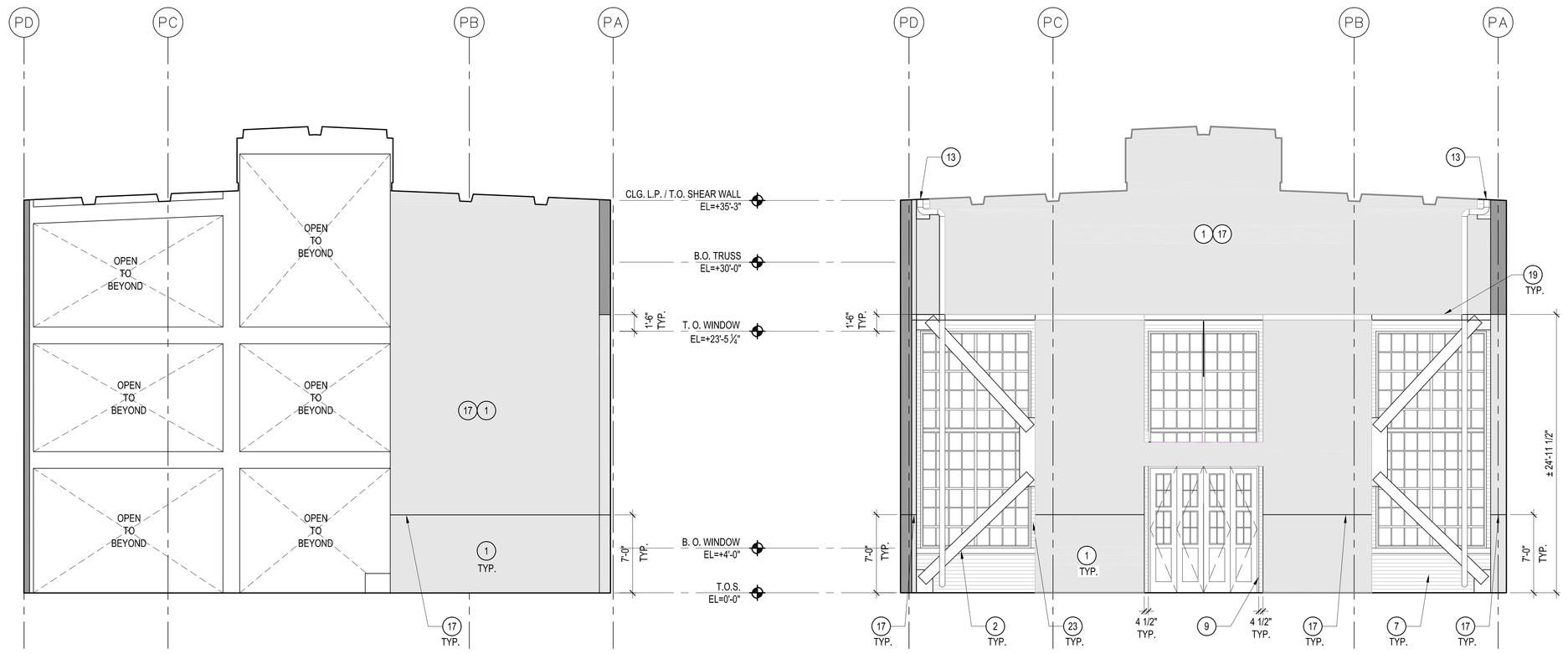

WALL ELEVATION
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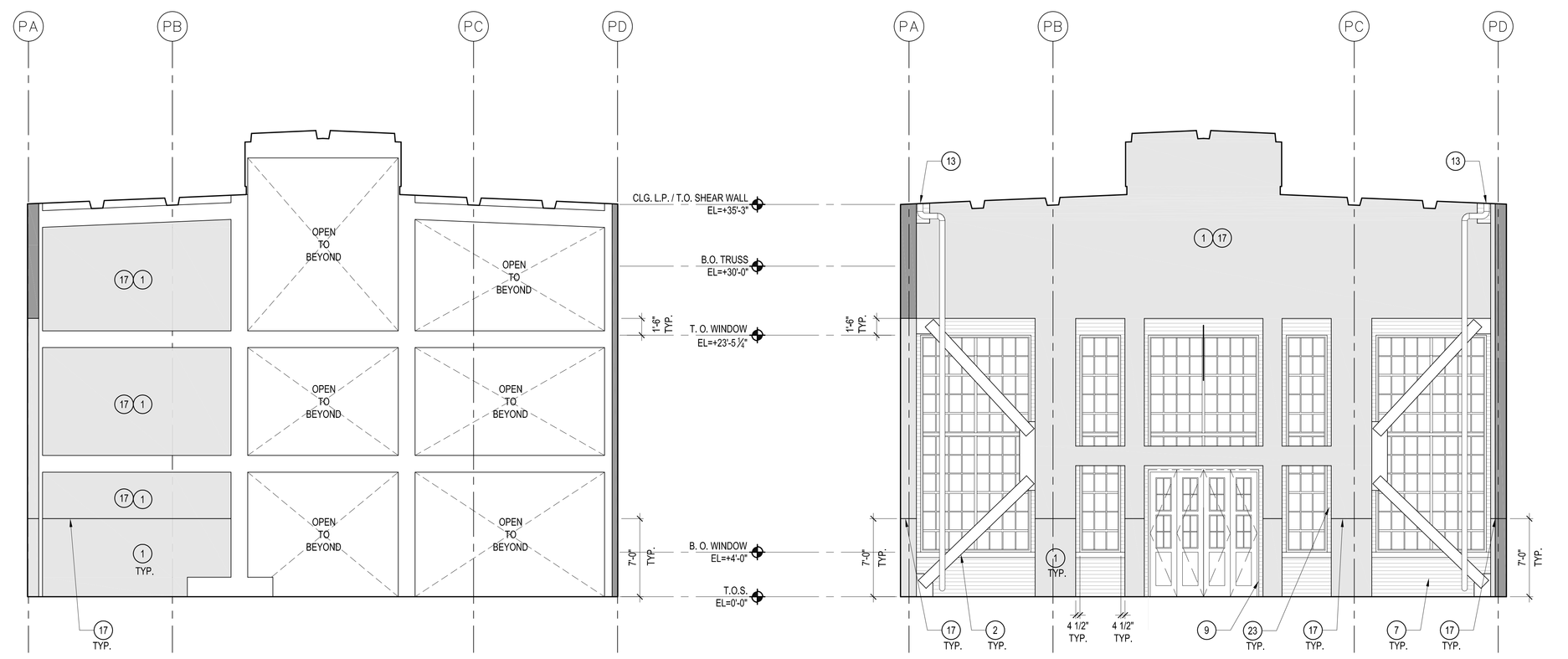
WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **02**



WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **03**

WALL ELEVATION
SCALE: 3/16"=1'-0" IE_POWER-64.dwg **01**

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LEGEND

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GENERAL NOTES

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Description
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Scale
3/16"=1'-0"

A11.07

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Appendix C: **Sharon Park, FAIA, Preservation Briefs No. 31, Mothballing Historic Buildings** 29

HISTORIC RESOURCES GROUP
12 S. Fair Oaks Avenue, Suite 200, Pasadena, CA 91105-1915
Telephone 626 793 2400, Facsimile 626 793 2401
historicla.com

Some of the web versions of the Preservation Briefs differ somewhat from the printed versions. Many illustrations are new and in color; Captions are simplified and some complex charts are omitted. To order hard copies of the Briefs, see Printed Publications.

PRESERVATION BRIEFS

31

Mothballing Historic Buildings

Sharon C. Park, AIA

Documentation

Stabilization

Mothballing

Mothballing Checklist

Maintenance Chart

Summary and References

Reading List

Download the PDF

Appropriately mothballed historic building. Photo: NPS files.

When all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism. This process, known as mothballing, can be a necessary and effective means of protecting the building while planning the property's future, or raising money for a preservation, rehabilitation or restoration project. If a vacant property has been declared unsafe by building officials, stabilization and mothballing may be the only way to protect it from demolition.

This building has been successfully mothballed for 10 years because the roof and walls were repaired and structurally stabilized, ventilation louvers added, and the property maintained. Photo: NPS files.

This Preservation Brief focuses on the steps needed to "de-activate" a property for an extended period of time. The project team will usually consist of an architect, historian, preservation specialist, sometimes a structural engineer, and a contractor. Mothballing should not be done without careful planning to ensure that needed physical repairs are made prior to securing the building. The steps discussed in this Brief can protect buildings for periods of up to ten years; long-term success will also depend on continued, although somewhat limited, monitoring and maintenance. For all but the simplest projects, hiring a team of preservation specialists is recommended to assess the specific needs of the structure and to develop an effective mothballing program.

A vacant historic building cannot survive indefinitely in a boarded-up condition, and so even marginal interim uses where there is regular activity and monitoring, such as a caretaker residence or non-flammable storage, are generally preferable to mothballing. In a few limited cases when the vacant building is in good condition and in a location where it can be watched and checked regularly, closing and locking the door, setting heat levels at just above freezing, and securing the windows may provide sufficient protection for a period of a few years.

But if long-term mothballing is the only remaining option, it must be done properly. This will require stabilization of the exterior, properly designed security protection, generally some form of interior ventilation—either through mechanical or natural air exchange systems—and continued maintenance and surveillance monitoring.

Boarding up without adequate ventilation and maintenance has accelerated deterioration of this property. Photo: NPS files.

Comprehensive mothballing programs are generally expensive and may cost 10% or more of a modest rehabilitation budget. However, the money spent on well-planned protective measures will seem small when amortized over the life of the resource. Regardless of the location and condition of the property or the funding available, the following 9 steps are involved in properly mothballing a building:

Documentation

1. Document the architectural and historical significance of the building.
2. Prepare a condition assessment of the building.

Stabilization

3. Structurally stabilize the building, based on a professional condition assessment.
4. Exterminate or control pests, including termites and rodents.
5. Protect the exterior from moisture penetration.

Mothballing

6. Secure the building and its component features to reduce vandalism or break-ins.
7. Provide adequate ventilation to the interior.
8. Secure or modify utilities and mechanical systems.
9. Develop and implement a maintenance and monitoring plan for protection.

These steps will be discussed in sequence below. Documentation and stabilization are critical components of the process and should not be skipped over. Mothballing measures should not result in permanent damage, and so each treatment should be weighed in terms of its reversibility and its overall benefit.

Documentation

Documenting the historical significance and physical condition of the property will provide information necessary for setting priorities and allocating funds. The project team should be cautious when first entering the structure if it has been vacant or is deteriorated. It may be advisable to shore temporarily areas appearing to be structurally unsound until the condition of the structure can be fully assessed. If pigeon or bat droppings, friable asbestos or other health hazards are present, precautions must be taken to wear the appropriate safety equipment when first inspecting the building. Consideration should be given to hiring a firm specializing in hazardous waste removal if these highly toxic elements are found in the building.

Documenting and Recording the Building

Documenting a building's history is important because evidence of its true age and architectural significance may not be readily evident. The owner should check with the State Historic Preservation Office or local preservation commission for assistance in researching the building. If the building has never been researched for listing in the National Register of Historic Places or other historic registers, then, *at a minimum*, the following should be determined:

- The overall historical significance of the property and dates of construction;
- The chronology of alterations or additions and their approximate dates; and,
- Types of building materials, construction techniques, and any unusual detailing or regional variations of craftsmanship.

Old photographs can be helpful in identifying early or original features that might be hidden under modern materials. On a walk-through, the architect, historian, or preservation specialist should identify the architecturally significant elements of the building, both inside and out.

By understanding the history of the resource, significant elements, even though deteriorated, may be spared the trash pile. For that reason alone, any materials removed from the building or site as part of the stabilization effort should be carefully scrutinized and, if appearing historic, should be photographed, tagged with a number, inventoried, and safely stored, preferably in the building, for later retrieval.

Documenting a building's history and assessing its condition provide information to set priorities for stabilization and repair, prior to mothballing. Photo: NPS files.

A site plan and schematic building floor plans can be used to note important information for use when the building is eventually preserved, restored, or rehabilitated. Each room should be given a number and notations added to the plans regarding the removal of important features to storage or recording physical treatments undertaken as part of the stabilization or repair.

Because a mothballing project may extend over a long period of time, with many different people involved, clear records should be kept and a building file established. Copies of all important data, plans, photographs, and lists of consultants or contractors who have worked on the property should be added to the file as the job progresses. Recording actions taken on the building and identifying where elements that have been removed are stored will be helpful in the future.

The project coordinator should keep the building file updated and give duplicate copies to the owner. A list of emergency numbers, including the number of the key holder, should be kept at the entrance to the building or on a security gate, in a transparent vinyl sleeve.

Preparing a Condition Assessment of the Building

A condition assessment can provide the owner with an accurate overview of the current condition of the property. If the building is deteriorated or if there are significant interior architectural elements that will need special protection during the mothballing years, undertaking a condition assessment is highly recommended, but it need not be exhaustive.

A modified condition assessment, prepared by an architect or preservation specialist, and in some case a structural engineer, will help set priorities for repairs necessary to stabilize the property for both the short and long-term. It will evaluate the age and condition of the following major elements: foundations; structural systems; exterior materials; roofs and gutters; exterior porches and steps; interior finishes; staircases; plumbing, electrical, mechanical systems; special features such as chimneys; and site drainage.

To record existing conditions of the building and site, it will be necessary to clean debris from the building and to remove unwanted or overgrown vegetation to expose foundations. The interior should be emptied of its furnishing (unless provisions are made for mothballing these as well), all debris removed, and the interior swept with a broom. Building materials too deteriorated to repair, or which have come detached, such as moldings, balusters, and decorative plaster, and which can be used to guide later preservation work, should be tagged, labeled and saved.

Buildings seriously damaged by storms or deterioration may need to be braced before architectural evaluations can be made. Photo: John Milner Architects. Photo: NPS files

Photographs or a videotape of the exterior and all interior spaces of the resource will provide an invaluable record of "as is" conditions. If a videotape is made, oral commentary can be provided on the significance of each space and architectural feature. If 35mm photographic prints or slides are made, they should be numbered, dated, and appropriately identified. Photographs should be cross-referenced with the room numbers on the schematic plans. A systematic method for photographing should be developed; for example, photograph each wall in a room and then take a corner shot to get floor and ceiling portions in the picture. Photograph any unusual details as well as examples of each window and door type.

For historic buildings, the great advantage of a condition assessment is that architectural features, both on the exterior as well as the interior, can be rated on a scale of their importance to the integrity and significance of the building. Those features of the highest priority should receive preference when repairs or protection measures are outlined as part of the mothballing process. Potential problems with protecting these features should be identified so that appropriate interim solutions can be selected. For example, if a building has always been heated and if murals, decorative plaster walls, or examples of patterned wall paper are identified as highly significant, then special care should be taken to regulate the interior climate and to monitor it adequately during the mothballing years. This might require retaining electrical service to provide minimal heat in winter, fan exhaust in summer, and humidity controls for the interior.

Loose or detached elements should be identified, tagged and stored, preferably on site. Photo: NPS files

Stabilization

Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or

reinforced; insects and other pests removed and discouraged from returning; and the building protected from moisture damage both by weatherizing the exterior envelope and by handling water run-off on the site. Even if a modified use or caretaker services can eventually be found for the building, the following steps should be addressed.

Structurally Stabilizing the Building

While bracing may have been required to make the building temporarily safe for inspection, the condition assessment may reveal areas of hidden structural damage. Roofs, foundations, walls, interior framing, porches and dormers all have structural components that may need added reinforcement.

Interior bracing which will last the duration of the mothballing will protect weakened structural members. Photo: John Milner Architects.

Structural stabilization by a qualified contractor should be done under the direction of a structural engineer or a preservation specialist to ensure that the added weight of the reinforcement can be sustained by the building and that the new members do not harm historic finishes. Any major vertical post added during the stabilization should be properly supported and, if necessary, taken to the ground and underpinned.

If the building is in a northern climate, then the roof framing must be able to hold substantial snow loads. Bracing the roof at the ridge and mid-points should be considered if sagging is apparent. Likewise, interior framing around stair openings or under long ceiling spans should be investigated. Underpinning or bracing structural piers weakened by poor drainage patterns may be a good precaution as well. Damage caused by insects, moisture, or from other causes should be repaired or reinforced and, if possible, the source of the damage removed. If features such as porches and dormers are so severely deteriorated that they must be removed, they should be documented, photographed, and portions salvaged for storage prior to removal.

If the building is in a southern or humid climate and termites or other insects are a particular problem, the foundation and floor framing should be inspected to ensure that there are no major structural weaknesses. This can usually be done by observation from the crawl space or basement. For those structures where this is not possible, it may be advisable to lift selective floor boards to expose the floor framing. If there is evidence of pest damage, particularly termites, active colonies should be treated and the structural members reinforced or replaced, if necessary.

Controlling Pests

Pests can be numerous and include squirrels, raccoons, bats, mice, rats, snakes, termites, moths, beetles, ants, bees and wasps, pigeons, and other birds. Termites, beetles, and carpenter ants destroy wood. Mice, too, gnaw wood as well as plaster, insulation, and electrical wires. Pigeon and bat droppings not only damage wood finishes but create a serious and sometimes deadly health hazard.

If the property is infested with animals or insects, it is important to get them out and to seal off their access to the building. If necessary, exterminate and remove any nests or hatching colonies. Chimney flues may be closed off with exterior grade plywood caps, properly ventilated, or protected with framed wire screens. Existing vents, grills, and louvers in attics and crawl spaces should be screened with bug mesh or heavy duty wire, depending on the type of pest being controlled. It may be advantageous to have damp or infected wood treated with insecticides (as permitted by each state) or preservatives, such as borate, to slow the rate of deterioration during the time that the building is not in use.

Securing the Exterior Envelope from Moisture Penetration

It is important to protect the exterior envelope from moisture penetration before securing the building. Leaks from deteriorated or damaged roofing, from around windows and doors, or through deteriorated materials, as well as ground moisture from improper site run-off or rising damp at foundations, can cause long-term damage to interior finishes and structural systems. Any serious deficiencies on the exterior, identified in the condition assessment, should be addressed.

Regrading has protected this masonry foundation wall from excessive damp during its 10-year mothballing. Note the attic and basement vents, temporary stairs, and interpretive sign. Photo: NPS files.

To the greatest extent possible, these weatherization efforts should not harm historic materials. The project budget may not allow deteriorated features to be fully repaired or replaced in-kind. Non-historic or modern materials may be used to cover historic surfaces temporarily, but these treatments should not destroy valuable evidence necessary for future preservation work. Temporary modifications should be as visually compatible as possible with the historic building.

Roofs are often the most vulnerable elements on the building exterior and yet in some ways they are the easiest element to stabilize for the long term, if done correctly. "Quick fix" solutions, such as tar patches on slate roofs, should be avoided as they will generally fail within a year or so and may accelerate damage by trapping moisture. They are difficult to undo later

when more permanent repairs are undertaken. Use of a tarpaulin over a leaking roof should be thought of only as a very temporary emergency repair because it is often blown off by the wind in a subsequent storm.

If the existing historic roof needs moderate repairs to make it last an additional ten years, then these repairs should be undertaken as a first priority. Replacing cracked or missing shingles and tiles, securing loose flashing, and reanchoring gutters and downspouts can often be done by a local roofing contractor. If the roof is in poor condition, but the historic materials and configuration are important, a new temporary roof, such as a lightweight aluminum channel system over the existing, might be considered. If the roofing is so deteriorated that it must be replaced and a lightweight aluminum system is not affordable, various inexpensive options might be considered. These include covering the existing deteriorated roof with galvanized corrugated metal roofing panels, or 90 lb. rolled roofing, or a rubberized membrane (refer back to cover photo). These alternatives should leave as much of the historic sheathing and roofing in place as evidence for later preservation treatments.

Urban buildings often need additional protection from unwanted entry and graffiti. This commercial building uses painted plywood panels to cover its glass storefronts. The upper windows on the street sides have been painted to resemble 19th century sash. Photo: NPS files.

For masonry repairs, appropriate preservation approaches are essential. For example, if repointing deteriorated brick chimneys or walls is necessary to prevent serious moisture penetration while the building is mothballed, the mortar should match the historic mortar in composition, color, and tooling. The use of hard portland cement mortars or vapor-impermeable waterproof coatings are not appropriate solutions as they can cause extensive damage and are not reversible treatments.

For wood siding that is deteriorated, repairs necessary to keep out moisture should be made; repainting is generally warranted. Cracks around windows and doors can be beneficial in providing ventilation to the interior and so should only be caulked if needed to keep out bugs and moisture. For very deteriorated wall surfaces on wooden frame structures, it may be necessary to sheathe in plywood panels, but care should be taken to minimize installation damage by planning the location of the nailing or screw patterns or by installing panels over a frame of battens. Generally, however, it is better to repair deteriorated features than to cover them over.

Foundation damage may occur if water does not drain away from the building. Run-off from gutters and downspouts should be directed far away from the foundation wall by using long flexible extender pipes equal in length to twice the depth of the basement or crawl space. If underground drains are susceptible to clogging, it is recommended that the downspouts be disconnected from the drain boot and attached to flexible piping. If gutters and downspouts are in bad condition, replace them with inexpensive aluminum units.

If there are no significant landscape or exposed archeological elements around the foundation, consideration should be given to regrading the site if there is a documented drainage problem. If building up the grade, use a fiber mesh membrane to separate the new soil from the old and slope the new soil 6 to 8 feet (200 cm-266 cm) away from the foundation making sure not to cover up the dampcourse layer or come into contact with skirting boards. To keep vegetation under control, put down a layer of 6 mil black polyethylene sheeting or fiber mesh matting covered with a 2"-4" (5-10 cm.) of washed gravel. If the building suffers a serious rising damp problem, it may be advisable to eliminate the plastic sheeting to avoid trapping ground moisture against foundations.

Mothballing

The actual mothballing effort involves controlling the long-term deterioration of the building while it is unoccupied as well as finding methods to protect it from sudden loss by fire or vandalism. This requires securing the building from unwanted entry, providing adequate ventilation to the interior, and shutting down or modifying existing utilities. Once the building is de-activated or secured, the long-term success will depend on periodic maintenance and surveillance monitoring.

Securing the Building from Vandals, Break-ins, and Natural Disasters

Securing the building from sudden loss is a critical aspect of mothballing. Because historic buildings are irreplaceable, it is vital that vulnerable entry points are sealed. If the building is located where fire and security service is available then it is highly recommended that some form of monitoring or alarm devices be used.

To protect decorative features, such as mantels, lighting fixtures, copper downspouts, iron roof cresting, or stained glass windows from theft or vandalism, it may be advisable to temporarily remove them to a more secure location if they cannot be adequately protected within the structure.

Mothballed buildings are usually boarded up, particularly on the first floor and basement, to protect fragile glass windows from breaking and to reinforce entry points. Infill materials for closing door and window openings include plywood, corrugated panels, metal grates, chain fencing, metal grills, and cinder or cement blocks. The method of installation should not result in the destruction of the opening and all associated sash, doors, and frames should be protected or stored for future reuse.

The first floor openings of this historic building have been filled with cinder blocks and the doors, window sash, and frames removed for safe keeping. The security metal door features heavy duty locks. Photo: NPS files.

Generally exterior doors are reinforced and provided with strong locks, but if weak historic doors would be damaged or disfigured by adding reinforcement or new locks, they may be removed temporarily and replaced with secure modern doors. Alternatively, security gates in an new metal frame can be installed within existing door openings, much like a storm door, leaving the historic door in place. If plywood panels are installed over door openings, they should be screwed in place, as opposed to nailed, to avoid crowbar damage each time the panel is removed. This also reduces pounding vibrations from hammers and eliminates new nail holes each time the panel is replaced.

For windows, the most common security feature is the closure of the openings; this may be achieved with wooden or pre-formed panels or, as needed, with metal sheets or concrete blocks. Plywood panels, properly installed to protect wooden frames and properly ventilated, are the preferred treatment from a preservation standpoint.

This painted trompe l'eoil scene on plywood panels is a neighborhood-friendly device. Photo: NPS files.

There are a number of ways to set insert plywood panels into windows openings to avoid damage to frame and sash. One common method is to bring the upper and lower sash of a double hung unit to the mid-point of the opening and then to install pre-cut plywood panels using long carriage bolts anchored into horizontal wooden bracing, or strong backs, on the inside face of the window. Another means is to build new wooden blocking frames set into deeply recessed openings, for example in an industrial mill or warehouse, and then to affix the plywood panel to the blocking frame. If sash must be removed prior to installing panels, they should be labeled and stored safely within the building.

Plywood panels are usually 1/2"-3/4" (1.25-1.875 cm.) thick and made of exterior grade stock, such as CDX, or marine grade plywood. They should be painted to protect them from delamination and to provide a neater appearance. These panels may be painted to resemble operable windows or treated decoratively. With extra attention to detail, the plywood panels can be trimmed out with muntin strips to give a shadow line simulating multi-lite windows. This level of detail is a good indication that the building is protected and valued by the community.

If the building has shutters simply close the shutters and secure them from the interior. If the building had shutters historically, but they are missing, it may be appropriate to install new shutters, even in a modern material, and secure them in the closed position. Louvered shutters will help with interior ventilation if the sash are propped open behind the shutters.

There is some benefit from keeping windows unboarded if security is not a problem. The building will appear to be occupied, and the natural air leakage around the windows will assist in ventilating the interior. The presence of natural light will also help when periodic inspections are made. Rigid polycarbonate clear storm glazing panels may be placed on the window exterior to protect against glass breakage. Because the sun's ultraviolet rays can cause fading of floor finishes and wall surfaces, filtering pull shades or inexpensive curtains may be options for reducing this type of deterioration for significant interiors. Some acrylic sheeting comes with built-in ultraviolet filters.

A view showing the exterior of the Brearley House, New Jersey, in its mothballed condition Photo: Michael Mills, Ford Farewell Mills Gatsch, Architects.

Securing the building from catastrophic destruction from fire, lightning, or arson will require additional security devices. Lightning rods properly grounded should be a first consideration if the building is in an area susceptible to lightning storms. A high security fence should also be installed if the property cannot be monitored closely. These interventions do not require a power source for operation. Since many buildings will not maintain electrical power, there are some devices available using battery packs, such as intrusion alarms, security lighting, and smoke detectors which through audible horn alarms can alert nearby neighbors. These battery packs must be replaced every 3 months to 2 years, depending on type and use. In combination with a cellular phone, they can also provide some level of direct communication with police and fire departments.

If at all possible, new temporary electric service should be provided to the building. Generally a telephone line is needed as well. A hard wired security system for intrusion and a combination rate-of-rise and smoke detector can send an immediate signal for help directly to the fire department and security service. Depending on whether or not heat will be maintained in the building, the security system should be designed accordingly. Some systems cannot work below 32∞F (0∞C). Exterior lighting set on a timer, photo electric sensor, or a motion/infra-red detection device provides additional security.

Providing Adequate Ventilation to the Interior

Once the exterior has been made weathertight and secure, it is essential to provide adequate air exchange throughout the building. Without adequate air exchange, humidity may rise to unsafe levels, and mold, rot, and insect infestation are likely to thrive. The needs of each historic resource must be individually evaluated because there are so many variables that affect the performance of each interior space once the building has been secured.

A mechanical engineer or a specialist in interior climates should be consulted, particularly for buildings with intact and significant interiors. In some circumstances, providing heat during the winter, even at a minimal 45∞ F (7∞C), and utilizing forced-fan ventilation in summer will be recommended and will require retaining electrical service. For masonry buildings it is often helpful to keep the interior temperature above the spring dew point to avoid damaging condensation. In most buildings it is the need for summer ventilation that outweighs the winter requirements.

This exhaust fan has tamper-proof housing. Photo: Michael Mills, Ford Farewell Mills Gatsch, Architects.

Many old buildings are inherently leaky due to loose-fitting windows and floorboards and the lack of insulation. The level of air exchange needed for each building, however, will vary according to geographic location, the building's construction, and its general size and configuration.

There are four critical climate zones when looking at the type and amount of interior ventilation needed for a closed up building: hot and dry (southwestern states); cold and damp (Pacific northwest and northeastern states); temperate and humid (Mid-Atlantic states, coastal areas); and hot and humid (southern states and the tropics).

Once closed up, a building interior will still be affected by the temperature and humidity of the exterior. Without proper ventilation, moisture from condensation may occur and cause damage by wetting plaster, peeling paint, staining woodwork, warping floors, and in some cases even causing freeze thaw damage to plaster. If moist conditions persist in a property, structural damage can result from rot or returning insects attracted to moist conditions. Poorly mothballed masonry buildings, particularly in damp and humid zones have been so damaged on the interior with just one year of unventilated closure that none of the interior finishes were salvageable when the buildings were rehabilitated.

The absolute minimum air exchange for most mothballed buildings consists of one to four air exchanges every hour; one or two air exchanges per hour in winter and twice that amount in summer. Even this minimal exchange may foster mold and mildew in damp climates, and so monitoring the property during the stabilization period and after the building has been secured will provide useful information on the effectiveness of the ventilation solution.

Portable monitors are used to record temperature and humidity conditions in historic buildings during mothballing. Photo: NPS files.

There is no exact science for how much ventilation should be provided for each building. There are, however, some general rules of thumb. Buildings, such as adobe structures, located in hot and arid climates may need no additional ventilation if they have been well weatherized and no moisture is penetrating the interior. Also frame buildings with natural cracks and fissures for air infiltration may have a natural air exchange rate of 3 or 4 per hour, and so in arid as well as temperate climates may need no additional ventilation once secured. The most difficult buildings to adequately ventilate without resorting to extensive louvering and/or mechanical exhaust fan systems are masonry buildings in humid climates. Even with basement and attic vent grills, a masonry building many not have more than one air exchange an hour. This is generally unacceptable for summer conditions. For these buildings, almost every window opening will need to be fitted out with some type of passive, louvered ventilation.

Depending on the size, plan configuration, and ceiling heights of a building, it is often necessary to have louvered opening equivalent to 5%-10% of the square footage of each floor. For example, in a hot humid climate, a typical 20'x30' (6.1m x 9.1m) brick residence with 600 sq. ft.(55.5 sq.m) of floor space and a typical number of windows, may need 30-60 sq. ft. (2.75sq.m-5.5 sq. m) of louvered openings per floor. With each window measuring 3'x5'(.9m x 1.5 m) or 15 sq. ft. (1.3 sq.m), the equivalent of 2 to 4 windows per floor will need full window louvers.

Small pre-formed louvers set into a plywood panel or small slit-type registers at the base of inset panels generally cannot provide enough ventilation in most moist climates to offset condensation, but this approach is certainly better than no louvers at all. Louvers should be located to give cross ventilation, interior doors should be fixed ajar at least 4" (10cm) to allow air to circulate, and hatches to the attic should be left open.

Monitoring devices which can record internal temperature and humidity levels can be invaluable in determining if the internal climate is remaining stable. These units can be powered by portable battery packs or can be wired into electric service with data downloaded into laptop computers periodically. This can also give long-term information throughout the mothballing years. If it is determined that there are inadequate air exchanges to keep interior moisture levels under control, additional passive ventilation can be increased, or, if there is electric service, mechanical exhaust fans can be installed. One fan in a small to medium sized building can reduce the amount of louvering substantially.

If electric fans are used, study the environmental conditions of each property and determine if the fans should be controlled by thermostats or automatic timers. Humidistats, designed for enclosed climate control systems, generally are difficult to adapt for open mothballing conditions. How the system will draw in or exhaust air is also important. It may be determined that it is best to bring dry air in from the attic or upper levels and force it out through lower basement windows. If the basement is damp, it may be best to zone it from the rest of the building and exhaust its air separately. Additionally, less humid day air is preferred over damper night air, and this can be controlled with a timer switch mounted to the fan.

The type of ventilation should not undermine the security of the building. The most secure installations use custom-made grills well anchored to the window frame, often set in plywood security panels. Some vents are formed using heavy millwork louvers set into existing window openings. For buildings where security is not a primary issue, where the interior is modest, and where there has been no heat for a long time, it may be possible to use lightweight galvanized metal grills in the window openings. A cost effective grill can be made from the expanded metal mesh lath used by plasterers and installed so that the mesh fins shed rainwater to the exterior.

Securing Mechanical Systems and Utilities

At the outset, it is important to determine which utilities and services, such as electrical or telephone lines, are kept and which are cut off. As long as these services will not constitute a fire hazard, it is advisable to retain those which will help protect the property. Since the electrical needs will be limited in a vacant building, it is best to install a new temporary electric line and panel (100 amp) so that all the wiring is new and exposed. This will be much safer for the building, and allows easy access for reading the meter.

Most heating systems are shut down in long term mothballing. For furnaces fueled by oil, there are two choices for dealing with the tank. Either it must be filled to the top with oil to eliminate condensation or it should be drained. If it remains empty for more than a year, it will likely rust and not be reusable. Most tanks are drained if a newer type of system is envisioned when the building is put back into service. Gas systems with open flames should be turned off unless there is regular maintenance and frequent surveillance of the property. Gas lines are shut off by the utility company.

If a hot water radiator system is retained for low levels of heat, it generally must be modified to be a self-contained system and the water supply is capped at the meter. This recirculating system protects the property from extensive damage from burst pipes. Water is replaced with a water/glycol mix and the reserve tank must also be filled with this mixture. This keeps the modified system from freezing, if there is a power failure. If water service is cut off, pipes should be drained. Sewerage systems will require special care as sewer gas is explosive. Either the traps must be filled with glycol or the sewer line should be capped off at the building line.

Developing a Maintenance and Monitoring Plan

While every effort may have been made to stabilize the property and to slow the deterioration of materials, natural disasters, storms, undetected leaks, and unwanted intrusion can still occur. A regular schedule for surveillance, maintenance, and monitoring should be established. The fire and police departments should be notified that the property will be vacant. A walk-through visit to familiarize these officials with the building's location, construction materials, and overall plan may be invaluable if they are called on in the future.

The optimum schedule for surveillance visits to the property will depend on the location of the property and the number of people who can assist with these activities. The more frequent the visits to check the property, the sooner that water leaks or break-ins will be noticed. Also, the more frequently the building is entered, the better the air exchange. By keeping the site clear and the building in good repair, the community will know that the building has not been abandoned. The involvement of neighbors and community groups in caring for the property can ensure its protection from a variety of catastrophic circumstances.

The owner may utilize volunteers and service companies to undertake the work outlined in the maintenance chart. Service companies on a maintenance contract can provide yard, maintenance, and inspection services, and their reports or itemized

bills reflecting work undertaken should be added to update the building file.

Mothballing Checklist

In reviewing mothballing plans, the following checklist may help to ensure that work items are not inadvertently omitted.

Moisture

- Is the roof watertight?
- Do the gutters retain their proper pitch and are they clean?
- Are downspout joints intact?
- Are drains unobstructed?
- Are windows and doors and their frames in good condition?
- Are masonry walls in good condition to seal out moisture?
- Is wood siding in good condition?
- Is site properly graded for water run-off?
- Is vegetation cleared from around the building foundation to avoid trapping moisture?

Pests

- Have nests/pests been removed from the building's interior and eaves?
- Are adequate screens in place to guard against pests?
- Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?
- If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?

Housekeeping

- Have the following been removed from the interior: trash, hazardous materials such as inflammable liquids, poisons, and paints and canned goods that could freeze and burst?
- Is the interior broom-clean?
- Have furnishings been removed to a safe location?
- If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?
- Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?
- Is there a building file?

Security

- Have fire and police departments been notified that the building will be mothballed?
- Are smoke and fire detectors in working order?
- Are the exterior doors and windows securely fastened?
- Are plans in place to monitor the building on a regular basis?
- Are the keys to the building in a secure but accessible location?
- Are the grounds being kept from becoming overgrown?

Utilities

- Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?
- If the building will not remain heated, have water pipes been drained and glycol added?
- If the electricity is to be left on, is the wiring in safe condition?

Ventilation

- Have steps been taken to ensure proper ventilation of the building?
- Have interior doors been left open for ventilation purposes?
- Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?

Maintenance Chart

1-3 months; periodic

- regular drive by surveillance
- check attic during storms if possible
- monthly walk arounds
- check entrances
- check window panes for breakage
- mowing as required
- check for graffiti or vandalism
- enter every 3 months to air out
- check for musty air
- check for moisture damage
- check battery packs and monitoring equipment
- check light bulbs
- check for evidence of pest intrusion

Every 6 months; spring and fall

- site clean-up; pruning and trimming
- gutter and downspout check
- check crawlspace for pests
- clean out storm drains

Every 12 months

- maintenance contract inspections for equipment/utilities
- check roof for loose or missing shingles
- termite and pest inspection/treatment
- exterior materials spot repair and touch up painting
- remove bird droppings or other stains from exterior
- check and update building file

Summary and References

Providing temporary protection and stabilization for vacant historic buildings can arrest deterioration and buy the owner valuable time to raise money for preservation or to find a compatible use for the property. A well planned mothballing project involves documenting the history and condition of the building, stabilizing the structure to slow down its deterioration, and finally, mothballing the structure to secure it. The three highest priorities for a mothballed building are 1) to protect the building from sudden loss, 2) to weatherize and maintain the property to stop moisture penetration, and 3) to control the humidity levels inside once the building has been secured.

While issues regarding mothballing may seem simple, the variables and intricacies of possible solutions make the decision-making process very important. Each building must be individually evaluated prior to mothballing. In addition, a variety of professional services as well as volunteer assistance is needed for careful planning and repair, sensitively designed protection measures, follow-up security surveillance, and cyclical maintenance.

In planning for the future of the building, complete and systematic records must be kept and generous funds allocated for mothballing. This will ensure that the historic property will be in stable condition for its eventual preservation, rehabilitation, or restoration.

Acknowledgements

The author, **Sharon C. Park**, Senior Historical Architect, Heritage Preservation Services Division, National Park Service, would like to acknowledge the assistance of the following individuals in the preparation and review of this publication. H. Ward Jandl served as the technical editor and assisted with producing this Preservation Brief. In addition the following persons have provided invaluable information and illustrations: Ernest A. Conrad, PE; Doug Hicks, NPS Williamsport Preservation Training Center; Thomas C. Taylor, Colonial Williamsburg; Karen Gordon, Seattle Urban Conservation Office; Kevin B. Stoops, Seattle Department of Parks and Recreation; Michael Mills, AIA; Christina Henry, architect, Mary Beth Hirsch, Ohio Historical Society. Thanks also to Heritage Preservation Services Division staff members Michael J. Auer, Anne

E. Grimmer, Kay D. Weeks, Tim Buehner, and Jean Travers, and to the numerous staff members of the NPS Regional offices who submitted comments. All photographs and drawings are by the author unless otherwise noted.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Technical Preservation Services (TPS), National Park Service prepares standards, guidelines, and other educational materials on responsible historic preservation treatments to a broad public.

September 1993

Reading List

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Solon, Thomas E. "Security Panels for the Foster-Armstrong House." Association for Preservation Technology Bulletin. Vol XVI no. 3 and 4, 1984. (note the design of the panels, but be aware that additional louvering may be needed on other projects).

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Appendix D: **Thomas E. Solon, AIA Emeritus, Security Panels for the Foster-Armstrong House**

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Security Panels for the Foster-Armstrong House
Author(s): Thomas E. Solon
Source: *Bulletin of the Association for Preservation Technology*, Vol. 16, No. 3/4, National Park Service (1984), pp. 70-73
Published by: Association for Preservation Technology International (APT)
Stable URL: http://www.jstor.org/stable/1494042
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SECURITY PANELS FOR THE FOSTER-ARMSTRONG HOUSE

Thomas E. Solon, AIA*

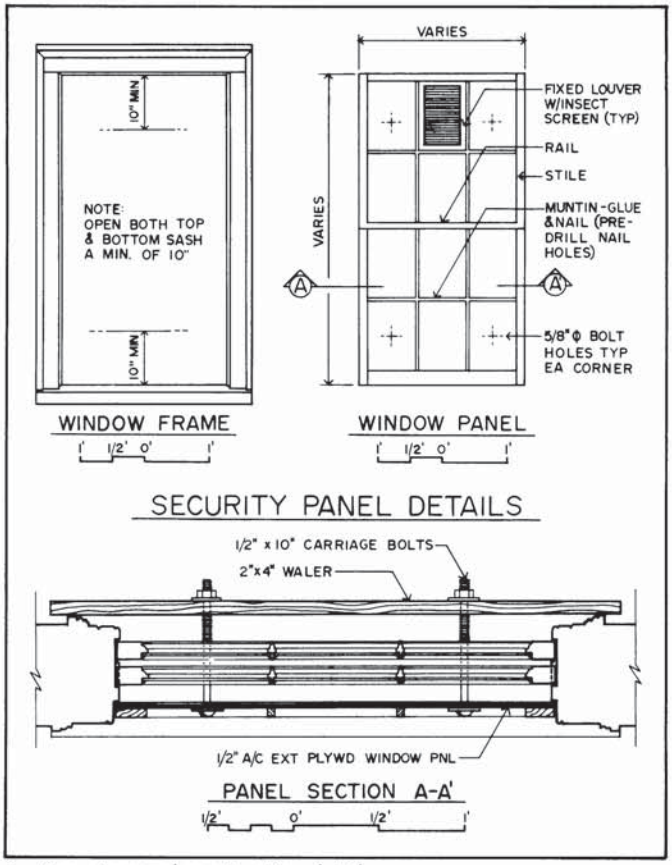
The authorization of the Delaware Water Gap National Recreation Area (DEWA) by Congress in 1965[1] set in motion several years of land acquisition. During these years a multitude of historic structures were placed under the care and protection of the National Park Service. Budgetary constraints did not allow for the immediate restoration and utilization of these historic structures. Therefore, many structures were mothballed until such time as funds became available. Utilities were disconnected and anything from old floor boards to sheets of plywood were nailed directly to the face of door and window frames to "protect" these unused historic structures. The boards would have to be pried off each time a building was entered or when daylight was needed to carry out surveys or interior repairs. Damage was cumulative each time the boards were removed and reinstalled. Indeed, the crowbar proved to be more damaging to historic fabric than the nails.

An even greater negative impact to each building, however, was the effect that the solid covers had on ventilation. Since these unheated structures were unable to breathe, the interior finishes were deteriorating rapidly.

During this period of mothballing, many secured structures were nevertheless vandalized; some were even burned to the ground. And while these atrocities could be directly attributed to the controversial origins of DEWA,[2] there is little doubt that the unattractive manner in which the structures were boarded up was also a contributing factor.

An improved window cover designed to overcome these problems was developed for the historic Foster-Armstrong House[3] when that building was stabilized by the National Park Service in 1982-83.[4] The new security panels would serve to protect the structure until restoration was undertaken in 1984. Intrinsically they were designed to be:

1. Easily removable from the inside.
2. Tamper-proof from the outside.
3. Capable of introducing outside air to ventilate the structure.



2. Security panel construction details.

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1. Foster-Armstrong House, Sussex County, New Jersey (c. 1790-1812), photo taken in 1982 before stabilization. (*photo by author*)

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4. Attractive, giving an impression that the structure is being cared for and that further improvements are forthcoming.

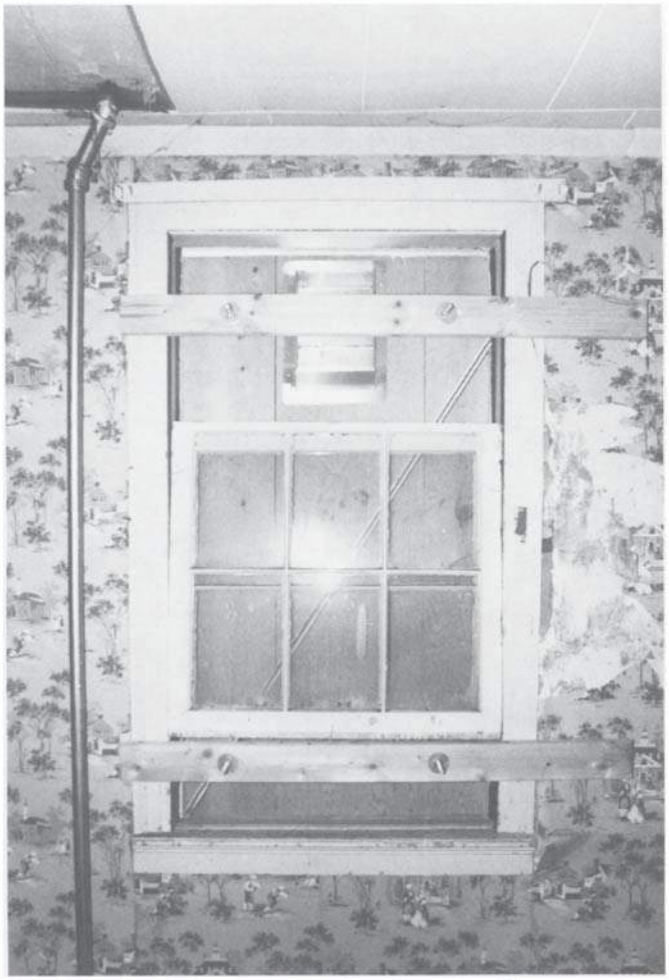
The security panels (Fig. 2) were constructed of 1/2" thick exterior grade plywood, sized to fit into the rabbeted surrounds of the historic window frames (where shutters or storm windows were originally placed). The plywood panel was through-bolted to easily removable horizontal 2 x 4 wood walers located on the interior using 1/2" diameter carriage bolts (Fig. 3). When these bolts are drawn tight, the panels are exceptionally tamper-resistant.[5] Ventilation was introduced using ordinary aluminum gable wall vents with integral louvers and insect screening (the type available at any lumber yard).

To achieve "attractiveness," the panels could have been painted medium gray. However, the Foster-Armstrong House has high visibility on a heavily traveled highway. In addition, it was going to be offered for lease under the Historic Property Leasing Program.[6] Prospective tenants would have to be awakened to the full potential of this elegant structure which had stood in disrepair for several years. With this in mind, the security panels were fabricated to simulate the historic 6/6 sash (Fig. 4). A trompe d'oeil effect could have been accomplished by painting the panels white, masking out the muntins, stiles and rails and painting the "glass" medium gray, however, the project architects instead applied millwork to the plywood to suggest muntins, stiles and rails, thus giving the covers a three-dimensional appearance (and additional rigidity). The finished panels simulated the original 6/6 sash. The aluminum vent was neatly inserted into the top center "light" of the "upper sash." The overall result was very effective, especially as seen from the highway (Fig. 5).

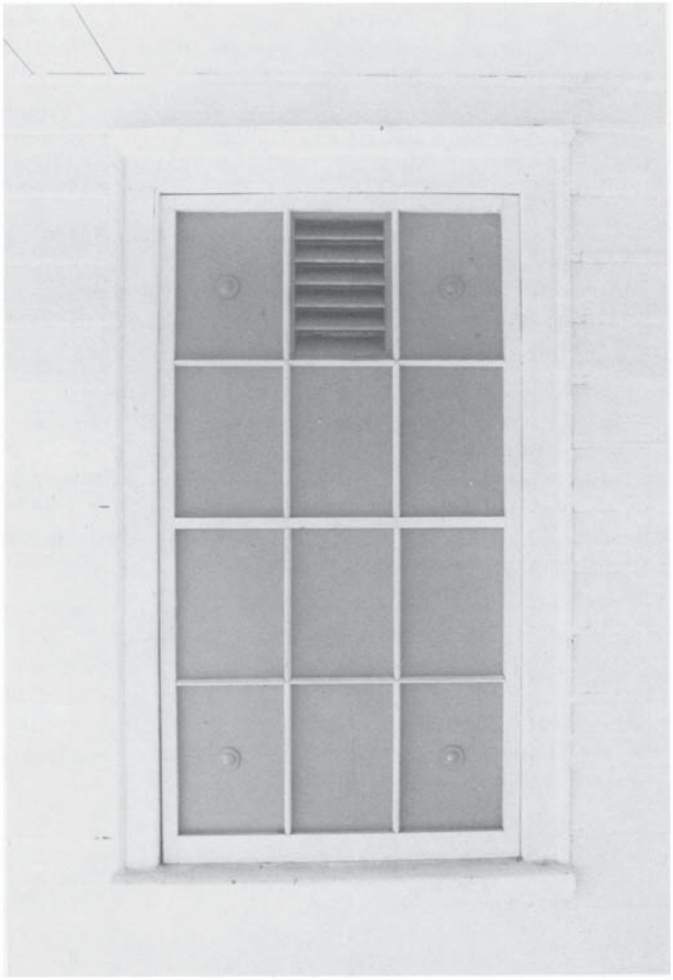
Admittedly, this was not an inexpensive window cover. And while the millwork could have been simplified or eliminated entirely in favor of a one-dimensional panel, the panels, as constructed were a great success.

The local population took a renewed interest in the Foster-Armstrong House following its stabilization. Having once contemplated constructing a new town hall, they are now negotiating with the National Park Service to lease and adaptively reuse the building.[7]

Future stabilization projects for DEWA structures of less significance or visibility may omit the applied millwork on security panels while retaining the removable and ventilating features. Meanwhile, it is hoped that



3. Interior view of completed panel. (*photo by author*)



4. Exterior view of completed panel. (*photo by author*)

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5. The Foster-Armstrong House after stabilization was completed in 1983. (*photo by author*)

existing surface nailed window covers can at least be retrofitted with aluminum vents and, as funds and manpower become available, secured, using the interior wood waler system.

In conclusion, it must be noted that these are only temporary measures, used to protect and secure structures awaiting future restoration and utilization. As one step of a responsible stabilization program, properly designed security panels will help protect mothballed structures from avoidable demolition by neglect.

Footnotes:

1. This 70,000-acre, 38-mile-long, scenic national recreation area lies along the Pennsylvania and New Jersey banks of the Delaware River. Farm sites and rural villages are located in the relatively unspoiled flatlands along the river. Trails lead to remote scenic natural areas of waterfalls, hidden lakes, and hemlock ravines. The river flows through the famous gap in the Kittatinny Ridge at the southern end of the park.
2. For flood control, the Federal Government had originally intended to dam the Delaware River at Tocks Island, creating a 12,000 acre reservoir. This was to have been a center piece of a 70,000 acre park. While acquiring the land at least 8,000 residents in both states were evicted and more than 3,000 houses, stores, churches and farmhouses were bulldozed or moved. Eventually, as a result of a grassroots protest, the dam project was shelved and in 1978 the area was placed into the Wild and Scenic Rivers system to be preserved in its natural state.
3. The Foster-Armstrong House is located in Sussex County, New Jersey along the Old Mine Road and was built between 1790 and 1812 by Julius Foster, a millwright from Long Island, N.Y. and James Armstrong, a shoemaker from Frankford, New Jersey and is notable for its gambrel roof with bell eaves, a handsomely detailed "Dutch" entrance door crowned by a Federal period transom and a large cooking fireplace in the stone kitchen wing which is flanked by a "beehive" oven protruding to the outside.
4. Stabilization plans and specifications were prepared by Project Architects Ken Bennett and Roger Evans of the Denver Service Center while the construction contract was awarded to the construction firm of LeRoy E. Shoesmith of Cresco, Pennsylvania. Construction was overseen by the author.
5. While the origin of this system is uncertain, it probably evolved from construction detailing of concrete formwork. Note that carriage bolts of lesser diameter would have sufficed. Also, users of these panels have suggested replacing the hex nuts with wing nuts. The panels could then be loosened or tightened without the use of tools.
6. Historic structures are offered for leases by the National Park Service under the Historic Property Leasing Program as authorized by Section 111 of the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by Public Law 96-515.
7. John Bruce Dodd, AIA, Historical Architect at DEWA has prepared plans and specifications for the adaptive restoration. Work began in the fall of 1984.

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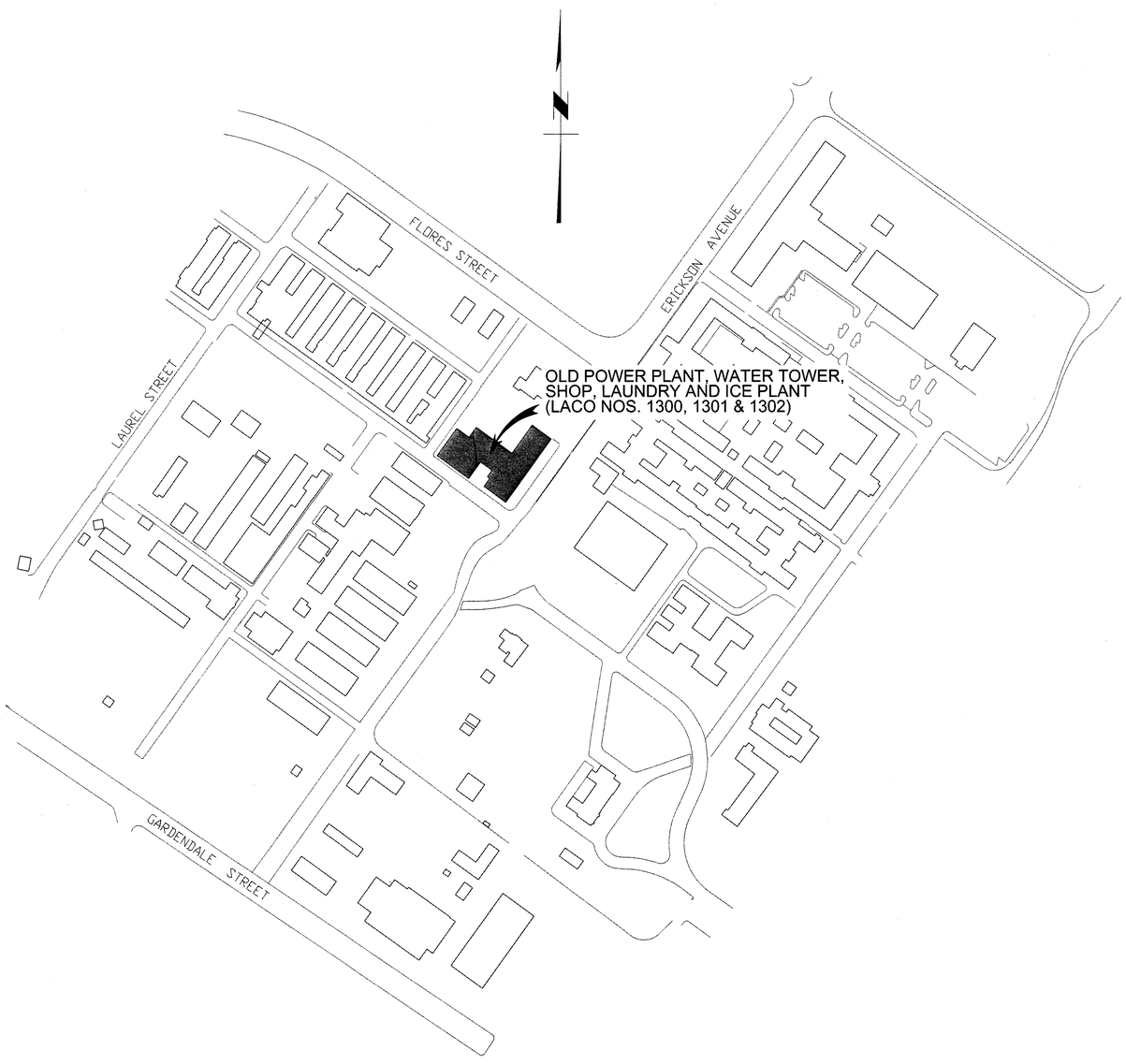
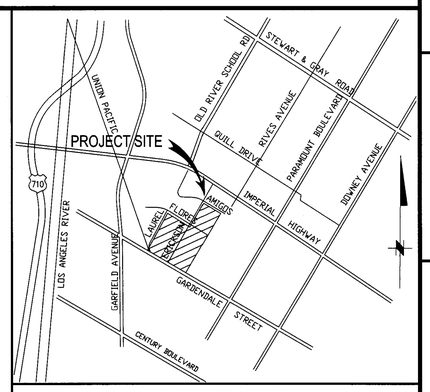
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
OLD POWER PLANT, WATER TOWER, SHOP, LAUNDRY AND ICE PLANT
(LACO NOS. 1300, 1301 & 1302)

7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242

August 2, 2007





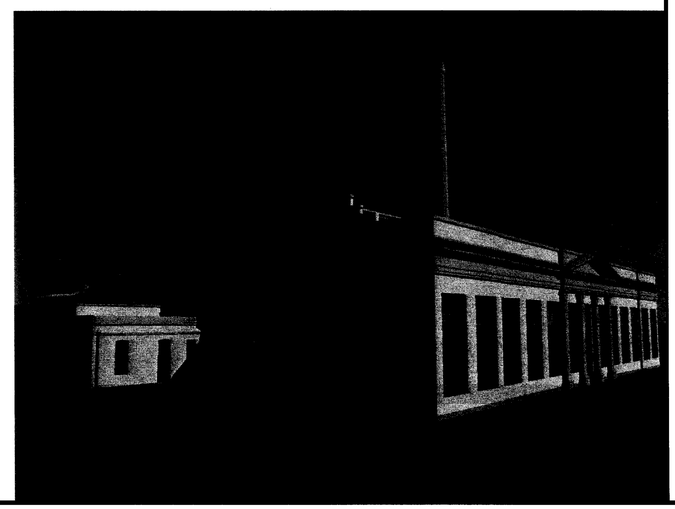
VICINITY MAP

BENCHMARK :

B.M. NO. Y 10723 LOS ANGELES COUNTY DATUM (SOUTH GATE)
LACO BM TAG IN W CB 13.7M N/O BCR @ NW COR OLD RIVER SCHOOL RD & IMPERIAL HWY 35M N & 9.7 M W/O C/L INT
ELEVATION = 95.233 (2000 ADJUSTMENT)

NOTE :

THESE PLANS ARE DERIVED FROM EXISTING ARCHITECTURAL DRAWINGS BY THE COUNTY OF LOS ANGELES MECHANICAL DEPARTMENT DATED FEBRUARY 11, 1926 WHICH WERE DEEMED ACCURATE UPON FIELD SURVEY. DISCERNABLE MODIFICATIONS HAVE BEEN MADE AND ARE NOT SHOWN ON THESE TYPICAL PLANS AS THEY ARE NOT ORIGINAL TO THE STRUCTURES.



Sheet List Table

General	
G-100	Cover Sheet
Architectural: Plans	
A-101	First Floor Plan
A-102	Roof Plan
A-103	Reflected Ceiling Plan
A-104	Trenches & Underground Tunnels
Architectural: Elevations and Sections	
A-201	Building Elevations
A-202	Building Elevations
A-301	Building Sections
A-302	Building Sections
Architectural: Schedules	
A-401	Door Schedule

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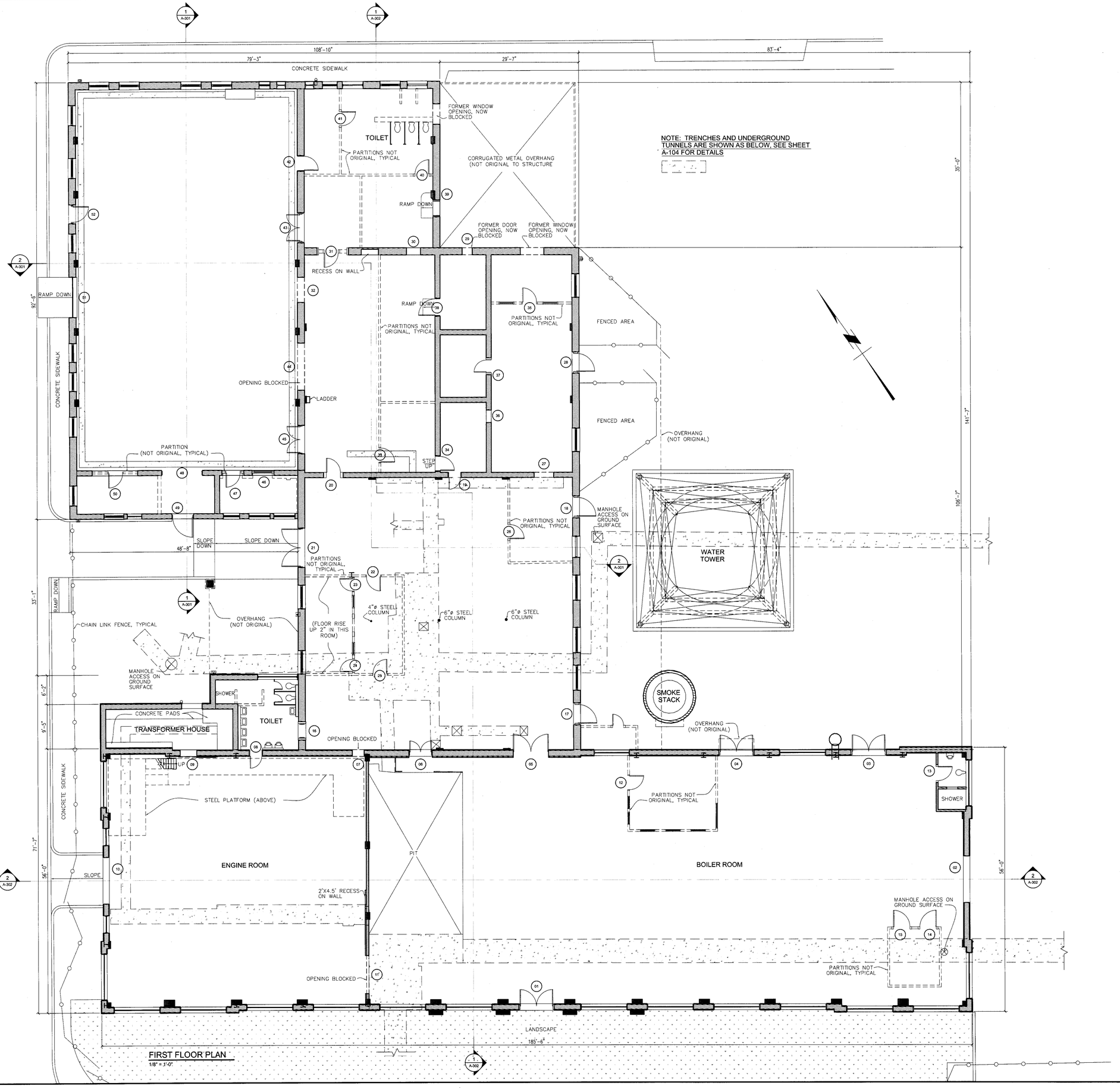

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(LACO NOS. 1300, 1301 & 1302)

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STATE OF CALIFORNIA

Kevin R. Hills 6617

August 2, 2007
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FIRST FLOOR PLAN

A-101

SHEET 2 OF 10

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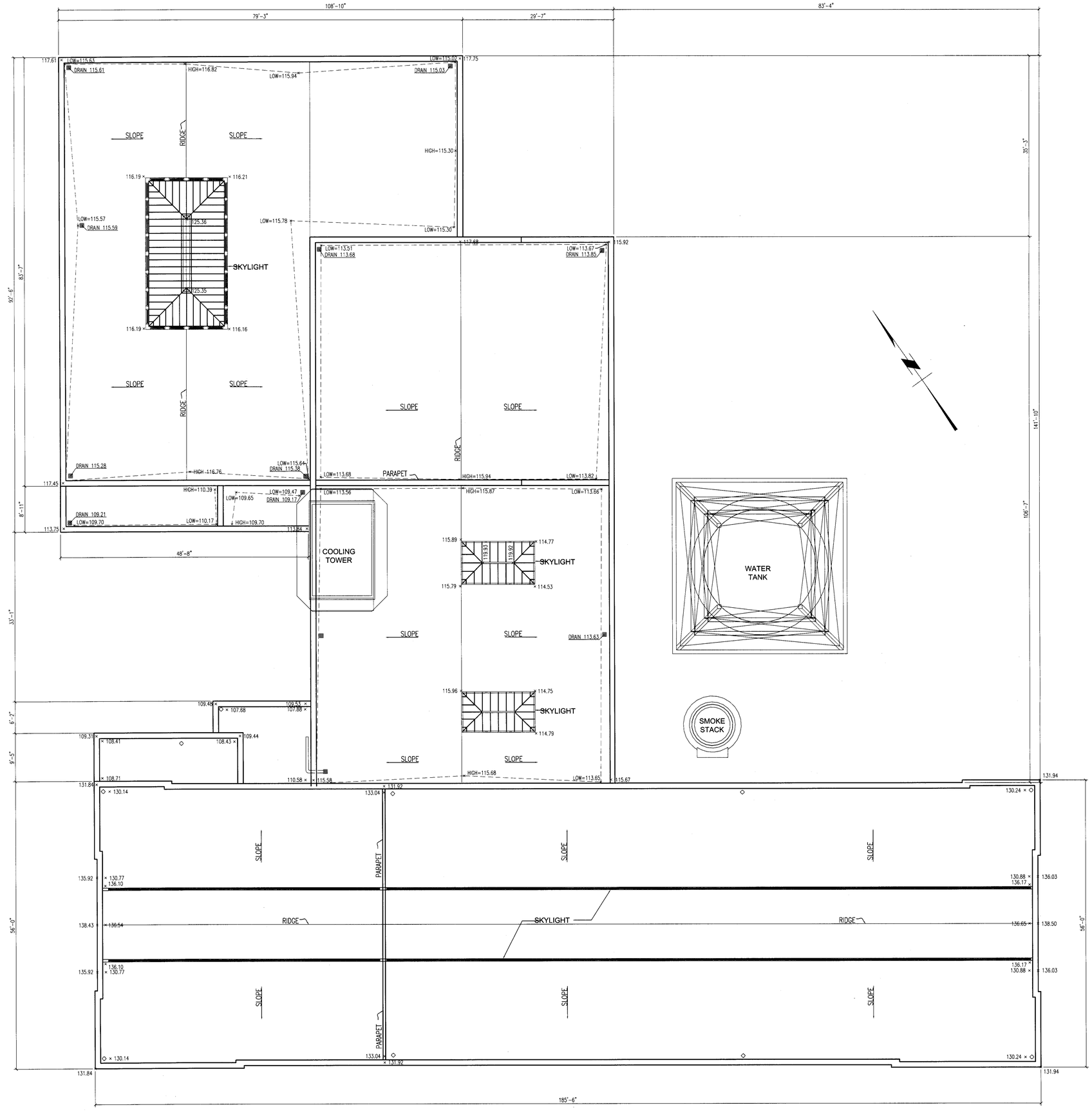

ROOF PLAN
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ROOF PLAN

A-102

SHEET 3 OF 10

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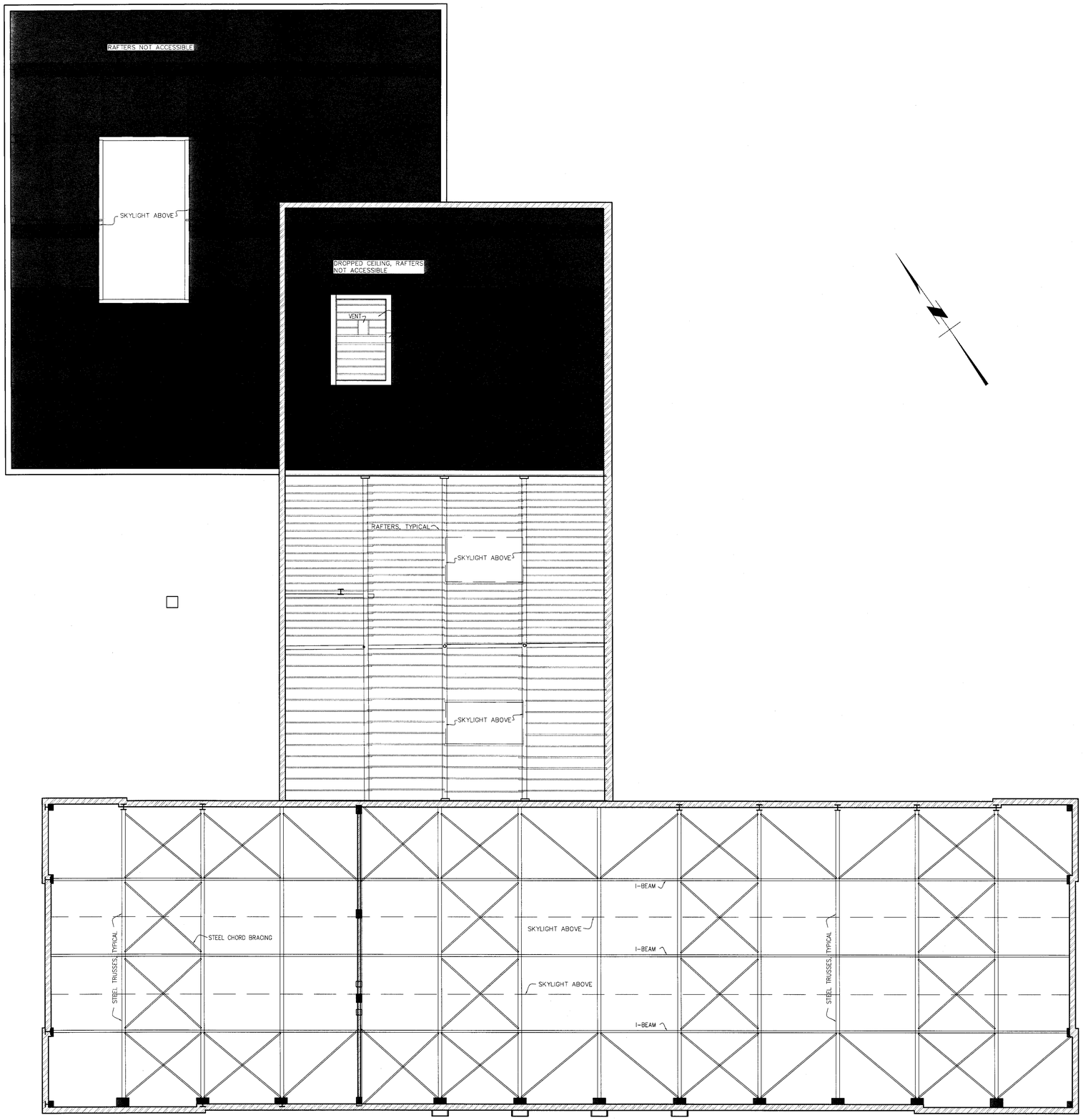

REFLECTED CEILING PLAN
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REFLECTED CEILING PLAN

A-103

SHEET 4 OF 10

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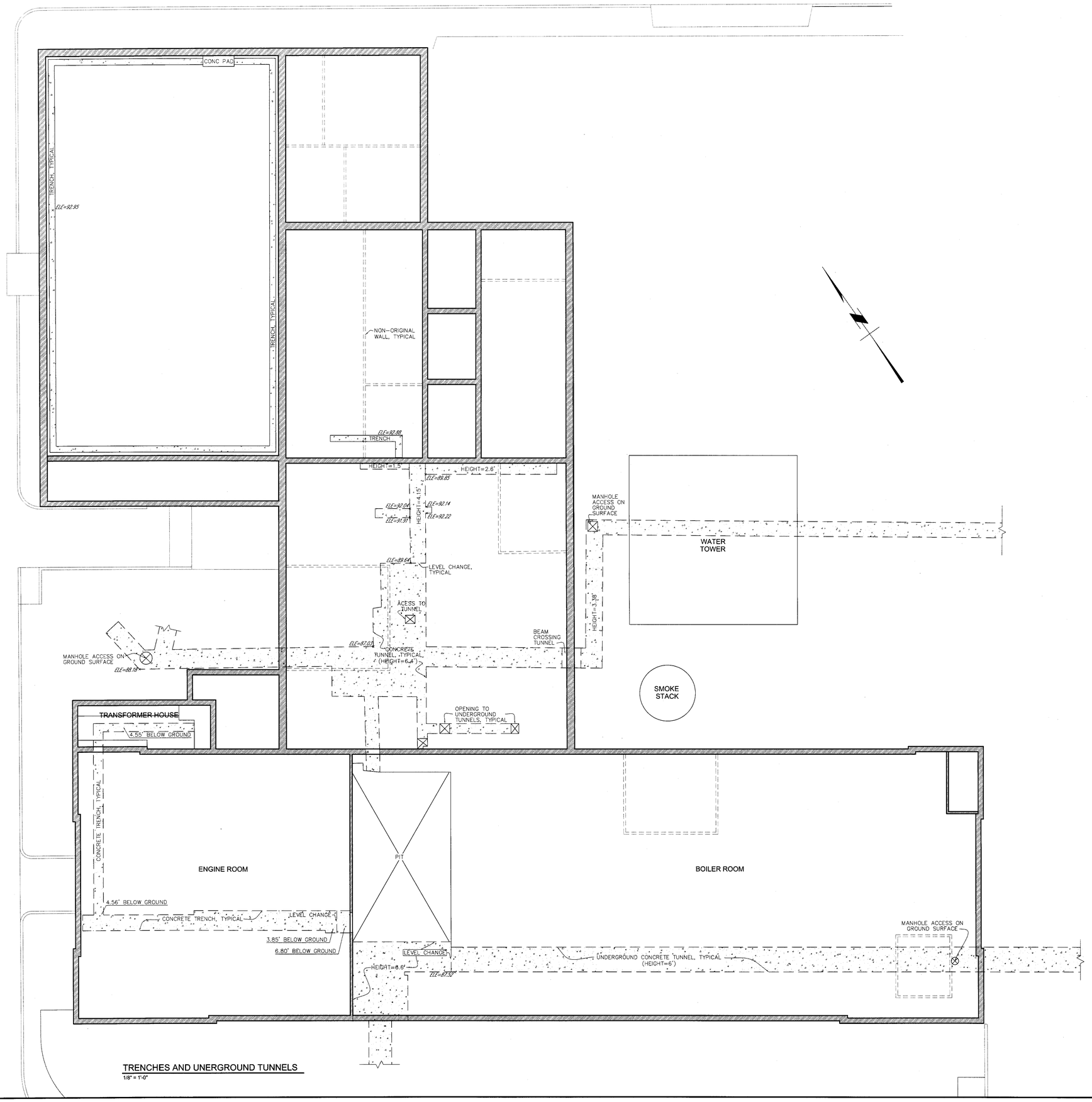

TRENCHES AND UNERGROUND TUNNELS
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SHEET TITLE

TRENCHES & UNDERGROUND TUNNELS

A-104

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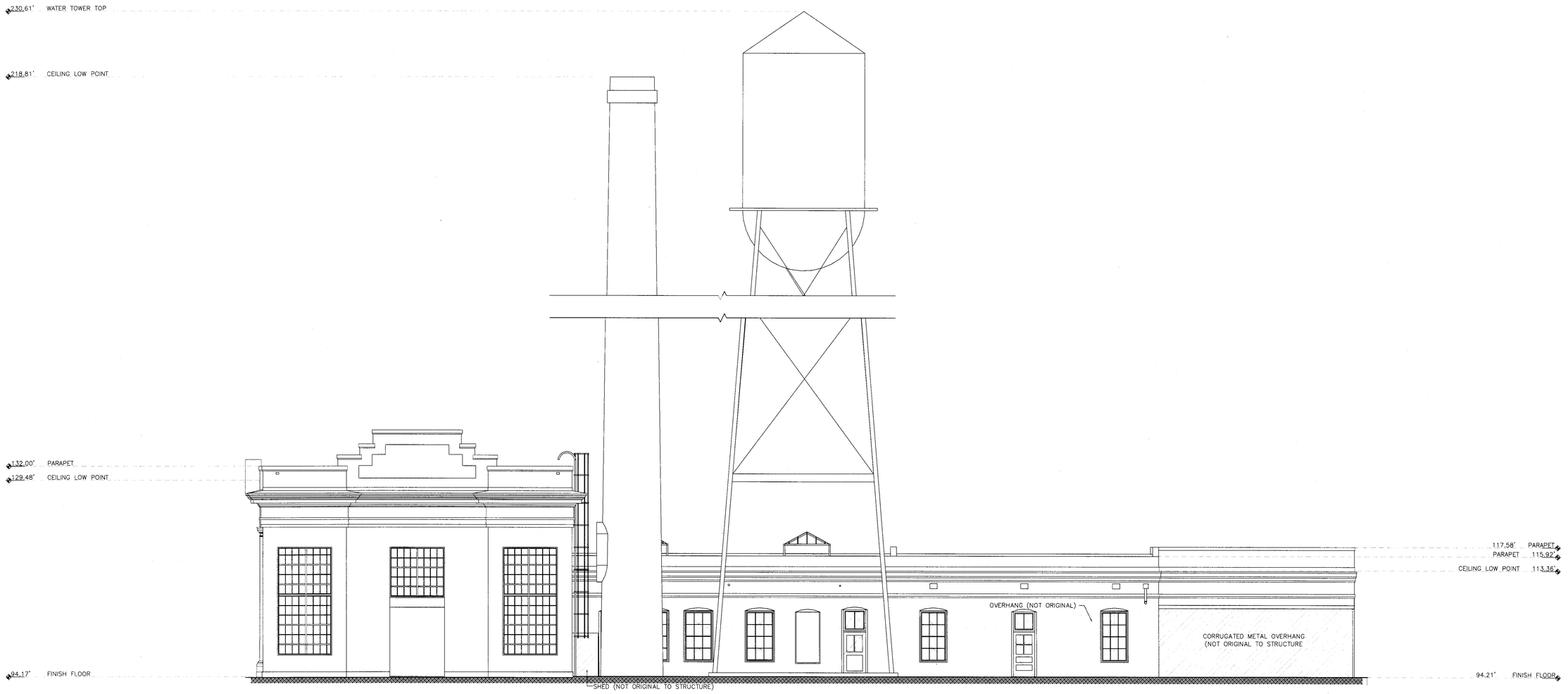

WEST ELEVATION
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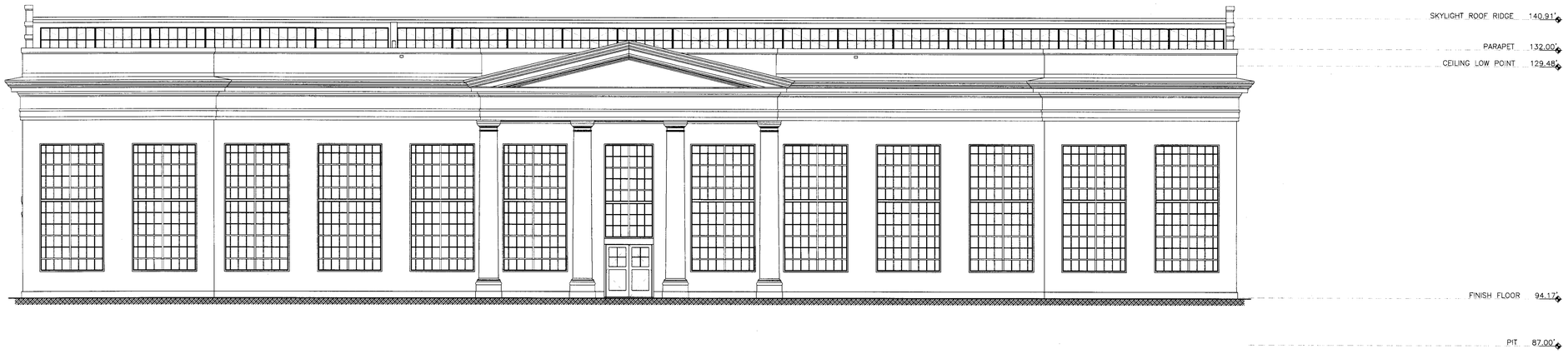

NORTH ELEVATION
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EXTERIOR ELEVATIONS

A-201

SHEET 6 OF 10

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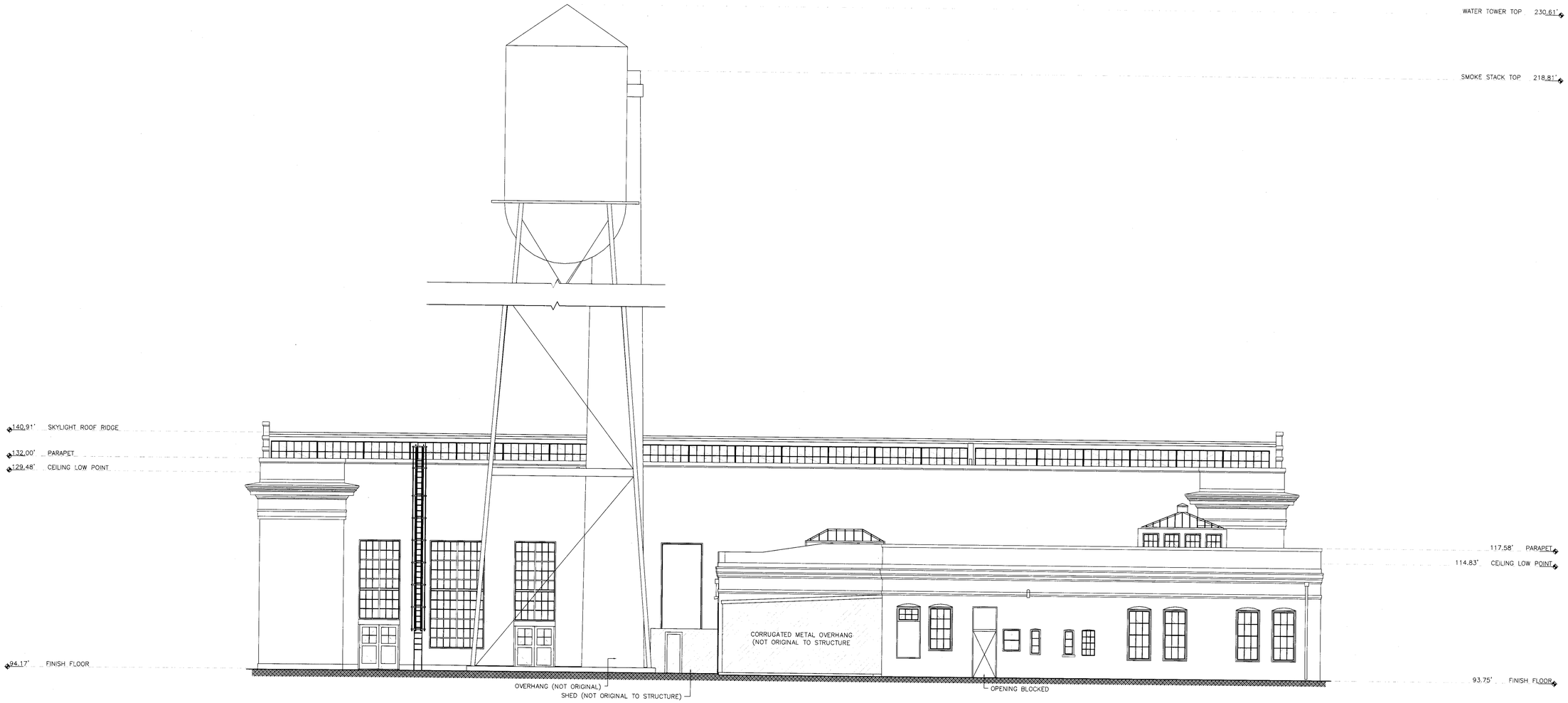

SOUTH ELEVATION
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EAST ELEVATION
1/8" = 1'-0"

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EXTERIOR ELEVATIONS

A-202

SHEET 7 OF 10

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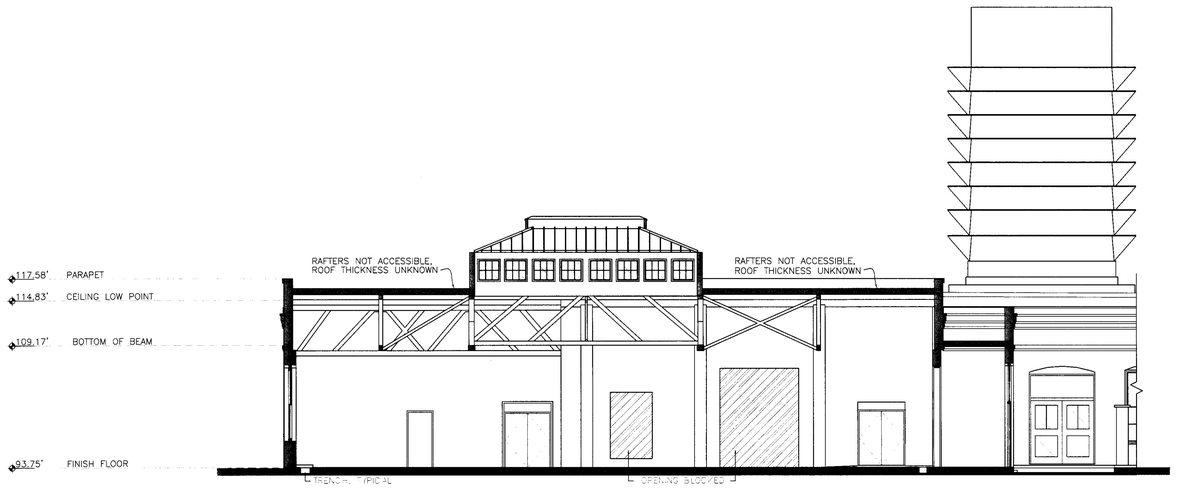

1 SECTION
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2 SECTION
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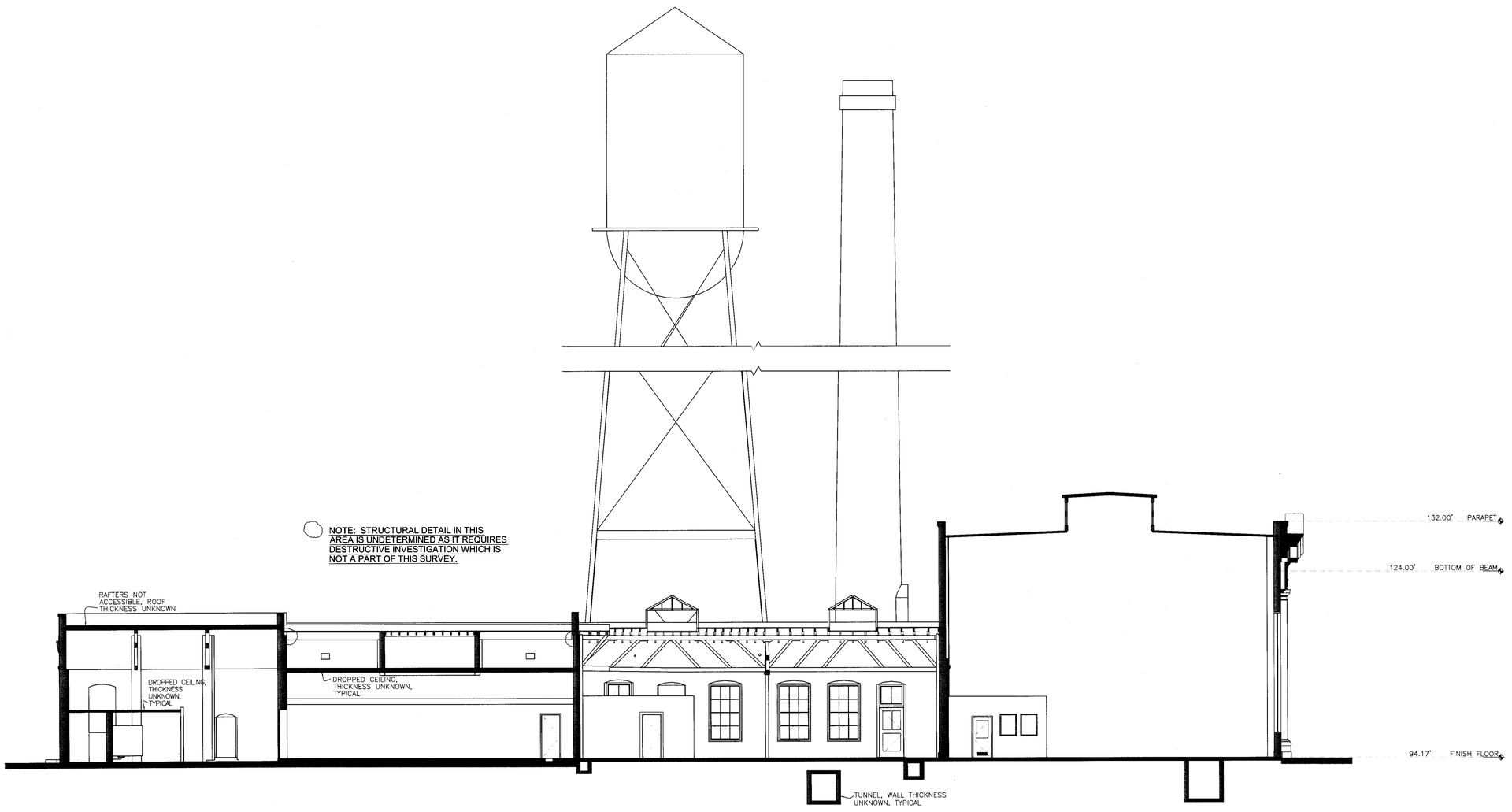
SHEET TITLE

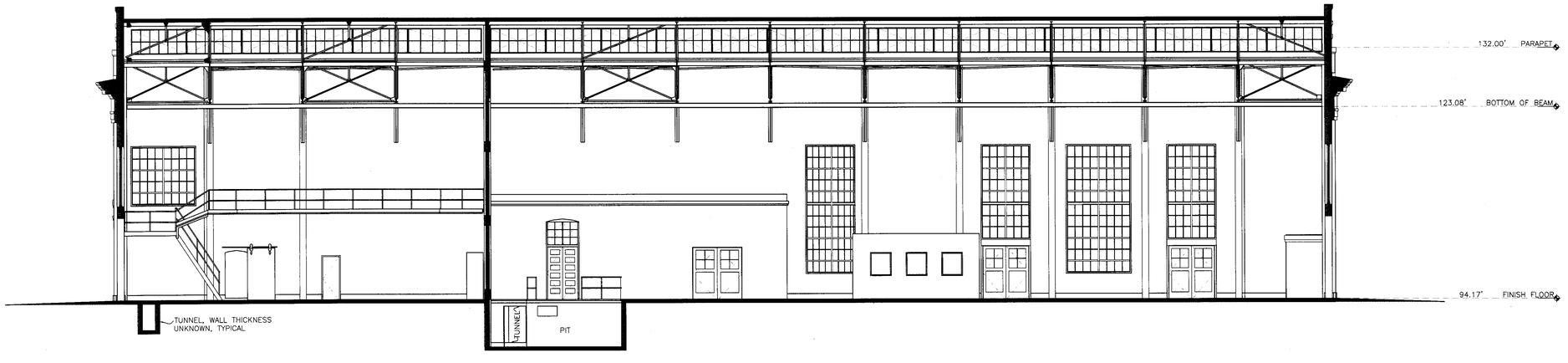
BUILDING SECTIONS

A-301

Plot: 8/2/2007 8:14:17 AM By: ---- CAD: C:\Projects\553-RANCHO LOS AMIGOS-DOWNEY\Survey\ADT\1300-1302 Power Plant\Power Plant\Sheets\A-301 Building Sections.dwg



1 SECTION
1/8" = 1'-0"



2 SECTION
1/8" = 1'-0"

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DATE	REVISION	BY

PREPARED FOR:

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133 MARTIN ALLEY
PASADENA, CA 91105

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER

RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
OLD POWER PLANT, WATER TOWER, SHOP, LAUNDRY AND ICE PLANT
(LACO NOS. 1300, 1301 & 1302)

7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242

PREPARED BY OR UNDER THE DIRECTION OF:

LICENSED LAND SURVEYOR
KEVIN R. HILLS
No. 6617
Exp. 12-31-07
STATE OF CALIFORNIA

Kevin R. Hills 6617
August 1, 2007
DATE:

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PROJECT NO: 553
CAD: A-302 BUILDING SECTIONS.DWG
DRAWN: SC
CHECKED: KRH
SCALE:

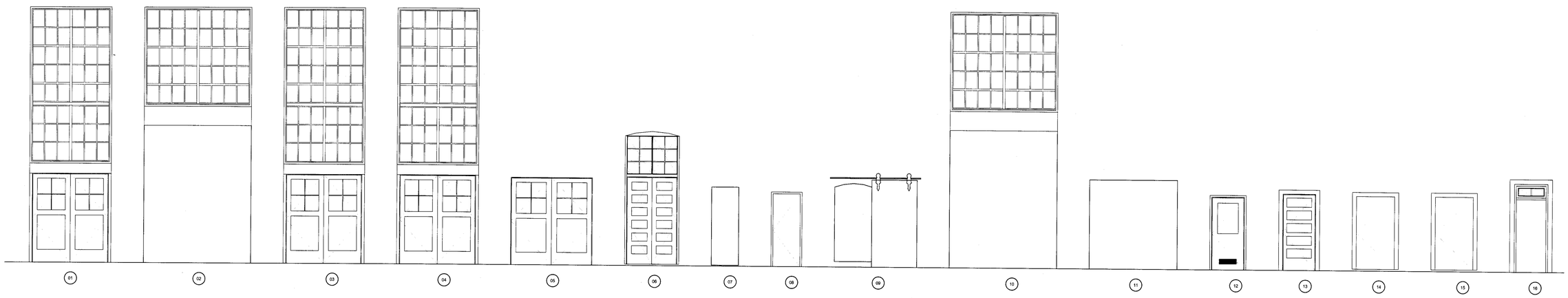
SHEET TITLE

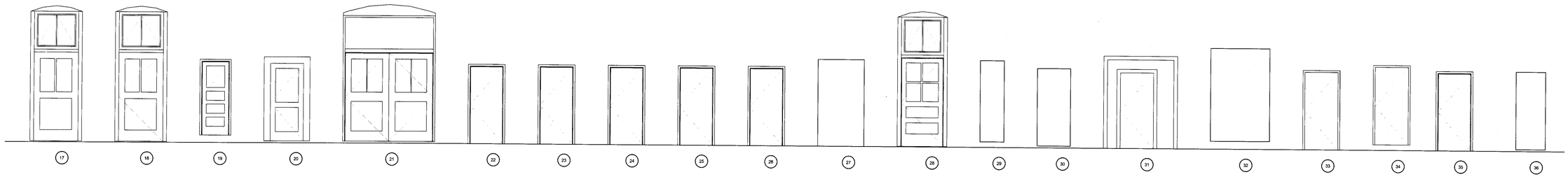
BUILDING SECTIONS

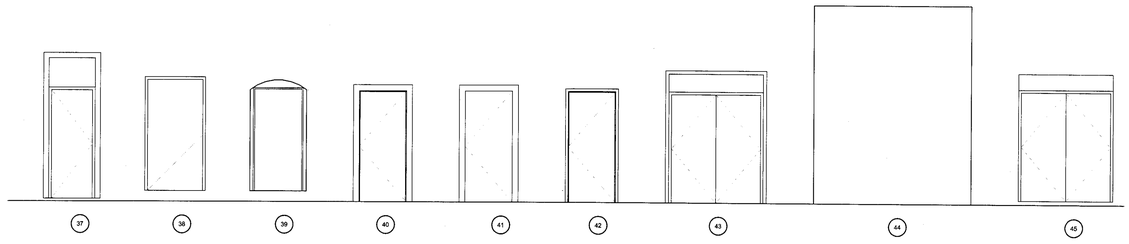
A-302

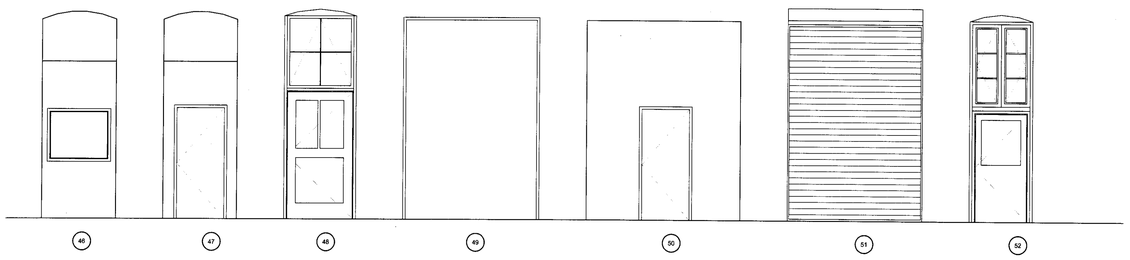
SHEET 9 OF 10

Plot: 8/2/2007 9:01:38 AM By: ---- CAD: C:\Projects\553-RANCHO LOS AMIGOS-DOWNEY\Survey\ADT\1300-1302 Power Plant\Power Plant\Sheets\A-302 Building Sections.dwg









DOOR ELEVATIONS
1/4" = 1'-0"

DOOR SCHEDULE

NO.	DOOR SIZE WD	DOOR SIZE HGT	DOOR SIZE THK	MATL	THRSHLD HGT	ORIGINAL HARDWARE (YES/NO)	NOTES
1	7'-6"	23'-5 1/4"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
2	9'-10 3/4"	23'-5 1/4"	NA	NA	0"	NA	NO DOOR
3	7'-6"	23'-5 1/4"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
4	7'-6"	23'-5 1/4"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
5	7'-6"	8'-0"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
6	5'-0"	12'-2"	1 3/4"	WOOD	1 1/2"	YES	ORIGINAL DOOR
7	2'-6"	7'-2"	NA	NA	1"	NA	BLOCKED OPENING
8	2'-6"	6'-8"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
9	3'-6"	7'-2"	NA	NA	6"	NA	OPENING
10	9'-10 3/4"	23'-5 1/4"	NA	NA	0"	NA	NO DOOR
11	8'-1"	8'-2"	NA	NA	0"	NA	BLOCKED OPENING
12	3'-0"	6'-8"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
13	3'-0"	7'-0"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
14	3'-6"	6'-8"	1 3/4"	WOOD	2"	NO	NON-ORIGINAL DOOR
15	3'-6"	6'-8"	1 3/4"	WOOD	2"	NO	NON-ORIGINAL DOOR
16	3'-11"	8'-6"	1 3/4"	NA	0"	NA	ORIGINAL DOOR FRMAE, NO DOOR
17	4'-8"	12'-2"	1 3/4"	WOOD	1"	YES	ORIGINAL DOOR
18	4'-8"	12'-6"	1 3/4"	WOOD	1"	YES	ORIGINAL DOOR
19	2'-6"	6'-8"	1 3/4"	WOOD	8"	YES	ORIGINAL DOOR, DOOR OPENING CONVERTED TO SHELVES
20	3'-0"	7'-0"	1 3/4"	WOOD	2"	YES	ORIGINAL DOOR
21	8'-4"	12'-7"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR
22	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
23	2'-8"	7'-6"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
24	2'-8"	7'-6"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
25	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
26	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
27	4'-2"	7'-10"	NA	NA	0"	NA	BLOCKED OPENING
28	4'-6"	12'-2"	1 3/4"	WOOD	1/2"	YES	ORIGINAL DOOR
29	2'-2"	7'-4"	NA	NA	6"	NA	HALF-BLOCKED OPENING
30	3'-0"	7'-0"	NA	NA	2"	NA	OPENING
31	3'-0"	6'-10"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR INSIDE OF ORIGINAL DOOR FRAME
32	5'-4"	8'-4 1/2"	NA	NA	8 1/2"	NA	BLOCKED OPENING
33	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
34	3'-0"	7'-0"	1 3/4"	WOOD	6"	NO	NON-ORIGINAL DOOR
35	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
36	2'-8"	7'-0"	NA	NA	2"	NA	OPENING
37	2'-11"	7'-0"	1 3/4"	WOOD	2"	NO	NON-ORIGINAL DOOR INSIDE OF ORIGINAL DOOR FRAME
38	3'-6"	7'-0"	1 3/4"	WOOD	8"	NO	NON-ORIGINAL DOOR
39	3'-0"	6'-5"	NA	WOOD	8"	NA	NON-ORIGINAL DOOR INSIDE OF ARCH OPENING
40	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
41	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
42	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR
43	5'-8"	6'-10"	1 3/4"	WOOD	0"	NO	NON-ORIGINAL DOOR INSIDE OF ORIGINAL DOOR FRAME
44	10'-0"	12'-6"	NA	NA	0"	NA	BLOCKED OPENING
45	6'-0"	8'-0"	1 3/4"	WOOD	3"	NO	NON-ORIGINAL DOOR INSIDE OF ORIGINAL DOOR FRAME
46	4'-8"	13'-1"	NA	NA	0"	NA	ARCH OPENING, BLOCKED BY 9'-11" HIGH NON-ORIGINAL WALL
47	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	ARCH OPENING, BLOCKED BY 9'-11" HIGH NON-ORIGINAL WALL
48	8'-4"	12'-7"	NA	WOOD	0"	YES	ORIGINAL DOOR
49	4'-7"	13'-2 7/8"	NA	WOOD	0"	NA	ORIGINAL DOOR FRAME, NO DOOR
50	3'-0"	7'-0"	1 3/4"	WOOD	0"	NO	OPENING, BLOCKED BY 9'-11" HIGH NON-ORIGINAL WALL
51	8'-6 1/2"	12'-5"	NA	METAL	0"	NO	NON-ORIGINAL COILING DOOR
52	4'-0"	13'-1"	1 3/4"	WOOD	0"	YES	ORIGINAL DOOR

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RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER

RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
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(LACO NOS. 1300, 1301 & 1302)

7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242

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STATE OF CALIFORNIA

Kevin R. Hills 6617
August 1, 2007
DATE:

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PROJECT NO:	553
CAD:	A-401 DOOR SCHEDULE.DWG
DRAWN:	SC
CHECKED:	KRH
SCALE:	

SHEET TITLE

DOOR SCHEDULE

A-401

SHEET 10 OF 10

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E LACO No. 1301 (Water Tower) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Water Tower (LACO 1301)

MGAC

Mothballing Cost Plan — Water Tower (LACO 1301)

			SF	$/SF	TOTAL $ x 1,000
B1	Water Tower (LACO 1301)		-		322
TOTAL BUILDING CONSTRUCTION			-		322
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**322**
Escalation to Midpoint (Jul 2021)		11.7%			38
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			14
	Project Management Consultant Services	2.0%			7
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			4
	Building Permit and Other Agency Fees	1.5%			6
	Owner Contingency/Construction Contingency	10.0%			39
Recommended Budget					***430***

MGAC

Mothballing Cost Plan — Water Tower (LACO 1301)

Item Description	Quantity	Unit	Rate	Total
1.) Water Tower (LACO 1301)				
No of floors		***EA***		
Gross Floor Area		***SF***		
Gross Wall Area		***SF***		
Roof Area		***SF***		
Windows Area		***SF***		
Gross Site Area		***SF***		
Building footprint		***SF***		
Net Site Area		***SF***		
Design and engineer a framed shelter for the tower that deflects rain and solar radiation - wood structure surround with membrane	1	LS	250,000.00	250,000
Clear site of weeds and overgrown trees	1	LS	1,000.00	1,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**251,000**
Z10 Design Contingency	15.00%			37,650
Z11 General Requirements	3.00%			8,660
Z21 General Conditions	3.00%			8,919
Z22 Bonds & Insurance	1.50%			4,593
Z23 Contractor's Overhead, Profit & Fee	3.75%			11,656
				322,478

Feasibility Study Reports for LACO No. 1184 (General Ward 30)

Primary Contributor

ESA

A LACO No. 1184 (General Ward 30) – Architectural Assessment Report

General Ward 30 (LACO 1184)

14,500 s.f.

Primary Contributor to Historic District

Building Description

One of five nearly identical buildings, General Ward 30 (LACO No. 1184) is located on the west side of Erikson Avenue and is the northern anchor of a row of four different General Ward buildings that are sited northwest of the intersection of Erickson Avenue and Bonita Street. One additional building is located south of Bonita Street. Reflecting a stripped Classical Revival design, General Ward 30 is two-stories in height with a rectangular plan and a symmetrical east-facing façade. The building sits on a concrete foundation and has reinforced concrete walls covered in painted, textured stucco. The flat roof is surmounted by a flat, monitor roof projection wrapped in a continuous linear band of metal louver vents. The western section of the roof exhibits fire damage. At the top of the wall plate, a crown molding is topped by a plain, projecting cornice. A continuous blind arcade divides the east (primary) and west (rear) elevations into two bays, each bay containing two groups of four windows on each level. The blind arcade defines ten bays on the north and south elevations. Fenestration on these elevations is mostly single windows, two per bay. Windows are primarily wood-framed, one-over-one, double-hung sash topped by hopper transoms. At the west end of the building, a one-story bridge connects General Ward 30 to General Ward 40 to the south and to the Dining Room/Staff /Kitchen/Commissary complex. Primary entrances are located at the east and west ends of the north and south elevations and are accessed by concrete ramps edged by pipe railings. Secondary entrances are located centrally on the north, south, and west elevations. Both original, single and double wood doors and metal replacement doors are present.[1]

Statement of Significance

The significance of General Ward 30 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> General Ward 30 (LACO No. 1184) was constructed in circa 1915 to house patients of the Poor Farm. It was converted into a pharmacy building in the 1930s, then office and storage space until circa the 1980s and 1990s, when it was abandoned along with much of the rest of the South Campus. ESA evaluated LACO No. 1184 under the following historical themes: Development of the Los Angeles County Poor Farm and Rancho Los Amigos (1888-1952). Based upon its date of construction and building type, LACO No. 1184 appears significant for its association with the Development of Rancho Los Amigos (1907-1932) era. LACO No. 1184 retains sufficient integrity to convey its original use as living

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 201 (LACO No. 1184),* prepared for the County of Los Angeles June 2, 2008.

quarters for patients of the Poor Farm. Though degraded, it is still intact and, in its present condition, retains integrity of location, setting, design materials, workmanship, feeling, and association. LACO No. 1184 retains sufficient integrity to convey its historical associations with the transition of the property from a poor farm to long-term care facility. Therefore, ESA recommends that the eligibility of LACO No. 1184 remain unchanged and that it continues to be considered a contributor to the District. ESA recommends that LACO No. 1184 retain its existing NRHP status code of 2D2, noting it as a contributor to the District.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** Building has a built-up roof. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters – are in need of repair or replacement.	• **7,250 s.f. Approx.**

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, General Ward 30 (LACO No. 1184),* prepared for the County of Los Angeles January 8, 2018.

• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **10,300 of plaster over concrete**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **3 exterior doors**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **56 - 3'x8' wood windows** • **17 - 8'x10' window assemblies**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage of the flooring was observed as well as visible standing water on flooring materials.	• **14,500 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Some have been fire damaged.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, which have been severely damaged.	• **14,500 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	

• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing** – Replace entire built-up roof with a single ply, waterproof membrane. Remove existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **7,400 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation methods to minimize damage to interior faces.	• **10,300 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **3 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high performance laminate glazing. Where repair is not possible replace, in-kind.	• **56- 3'x8' wood windows** • **17- 8'x10' window assemblies** • **Assume 20% replace in kind.**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building.	• **5,000 s.f. courtyard.**

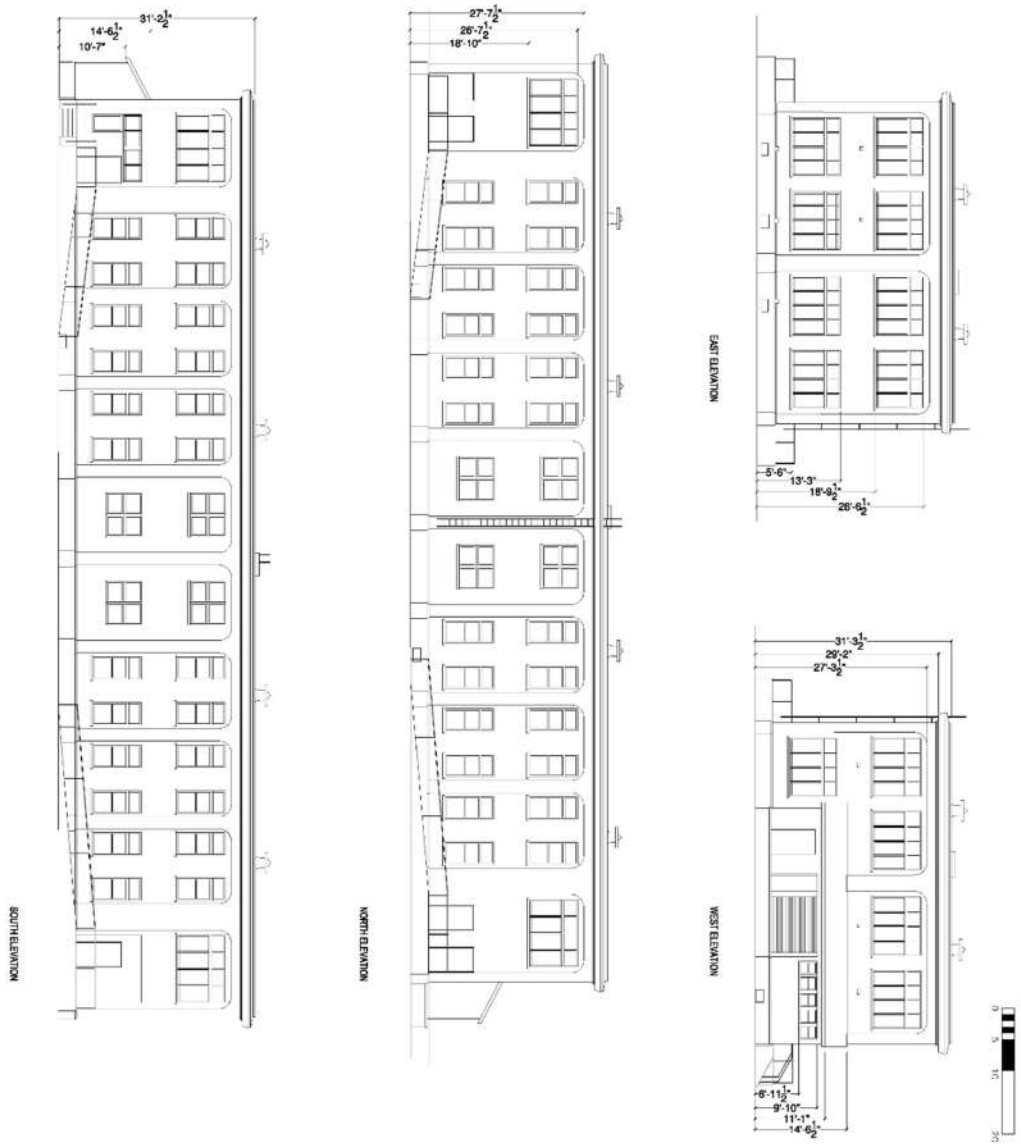
Interior Spaces

It is assumed that this 14,500 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted in order to accommodate building features.

• **Flooring –** Repair damaged concrete floor throughout.	• **14,500 s.f.** • **Assume 75% repair.**
Walls – Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. Remaining Hollow Clay tile walls will be encapsulated with 4" 16 ga. Metal bd. and gyp bd. Each side.	• **10,300 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout.	• **14,500 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 l.f.**
• **Lighting –** Provide new high efficiency LED lighting and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **1 restroom core per floor-8 fixtures plus 4 sinks total**
• **Elevator –** Provide new 3,000 lb. elevator.	• **(1) 3,000lb. elevator**
• **Electrical** – Provide new 1200 Amp system.	

• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	

GENERAL
WARDS 30-70 -
SIMILAR

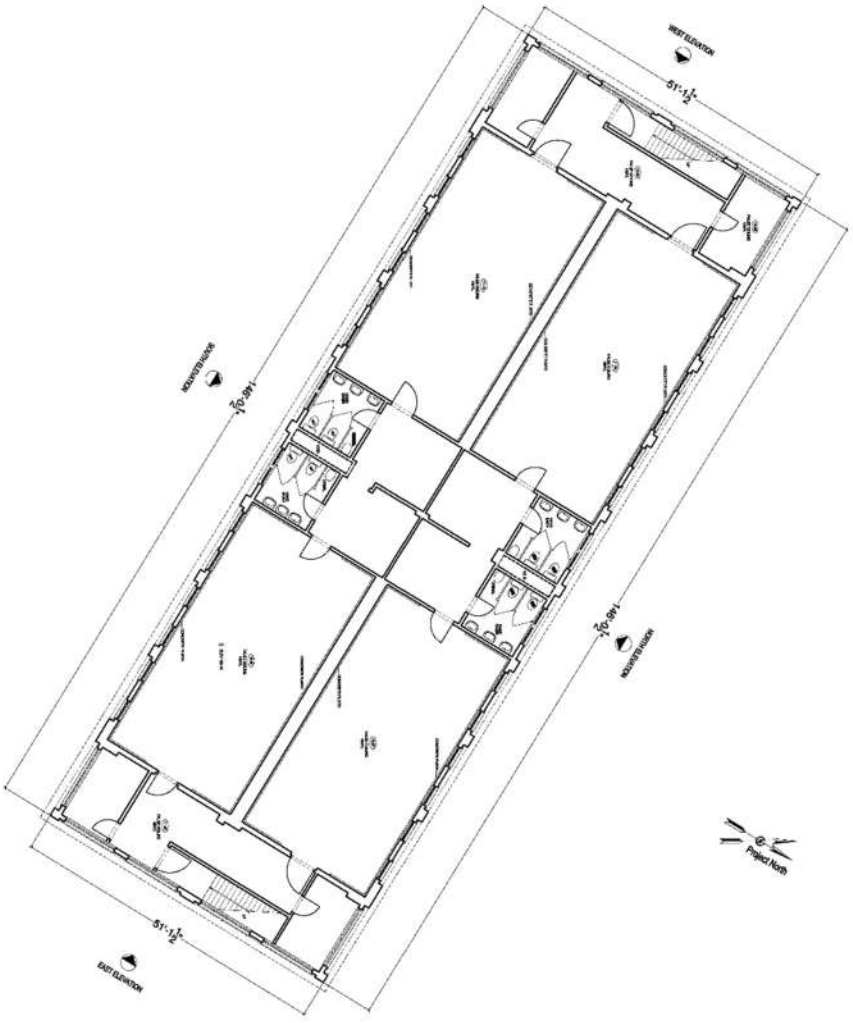


SOURCE: Mollenhaur Group

March 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	General Ward Building 70 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-H

GENERAL
WARDS 30-70 -
SIMILAR



SOURCE: Mollenhaur Group

March 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	General Ward Building 70 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-H

North Elevation

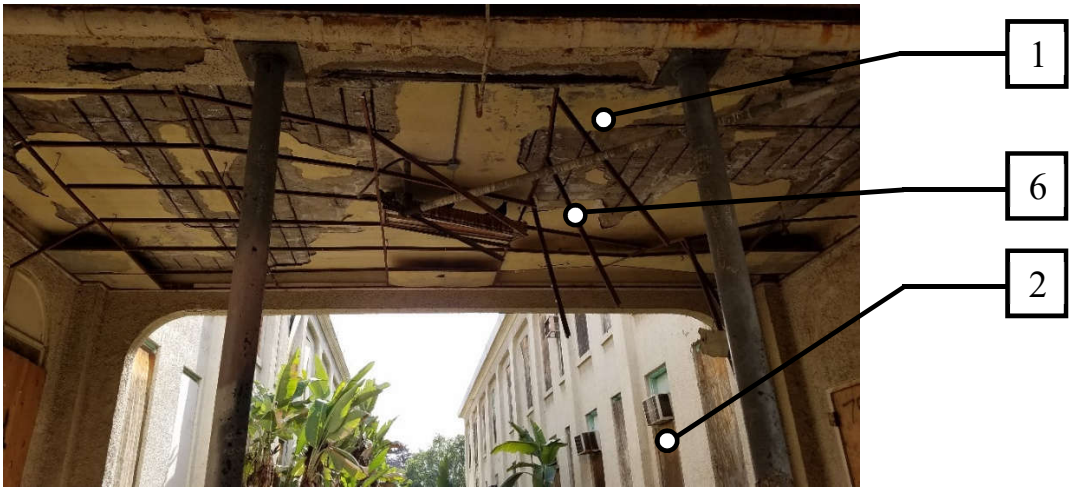
Main Entry

1. Paint and patch plaster throughout.
2. Remove plywood, repair windows or replace in kind.
3. Provide new door assembly.
4. Provide new steel guardrail assembly.

Interior Fire Damage

Exposed Floor Structure with Fire Damage

1. Paint and patch plaster throughout.
2. Remove plywood, repair windows or replace in kind.
3. Remove and patch plumbing lines.
4. Provide new steel guardrail assembly.
5. Remove existing non-bearing walls.
6. Remove all hazardous material and debris.



Walkway Between Buildings

1. Patch and paint plaster throughout.
2. Remove plywood, repair windows or replace in-kind.
3. Remove and patch plumbing lines.
4. Provide new steel guardrail assembly.
5. Remove existing non-bearing walls.
6. Remove all hazardous material and debris.

B LACO No. 1184 (General Ward 30) – Structural Assessment Report

Structural Assessment: General Ward 30
(LACO NO. 1184)

Summary of Assessment

This building is one of a group of five General Ward buildings (LACO Nos. 1184, 1185, 1186, 1187, and 1188), which were constructed between 1913 and 1929. Each of these buildings is rectangular in plan, and the buildings are situated adjacent to each other with their long dimensions running from east to west. The two-story structures feature concrete floors and roof slabs. Each building is approximately 14,500 square feet. This report describes conditions and suggested upgrades representative of the entire set of buildings, with some information specific to LACO No. 1184.

The building appears to be in poor condition, with evidence of extensive fire damage and moisture damage, in addition to damage associated with the age of the building. Cracking and deterioration of building materials were noted throughout the structure. The expected seismic performance of this building, in its current condition, is poor. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this General Ward building. A detailed summary of these measures is included in the final section of this report. However, retrofitting older, nonductile concrete structures to meet a Life Safety Performance Level requires extensive inspection, materials testing, and strengthening.

Description of the Building

Each General Ward building is a two-story concrete structure that stands approximately 31 feet in height with concrete floors and roof slabs. Each building is approximately 14,000 to 15,000 square feet. The exterior walls are concrete frames with hollow clay tile infill. The walls are supported by a slab and stem wall, connected to the concrete foundation. There are columns along the exterior wall at every other window pier, extending from the foundation to the roof and connecting to a perimeter beam (Figure 2). Based on the few sheets of as-built drawings available for review, the columns have minimal reinforcement and will likely need to be strengthened. The first floor is a 4-inch concrete slab with beams, raised on a stem wall to create a crawl space. The majority of the slab is reinforced with 3/8-inch square rods at 6 inches on center each way. The second-floor slab and roof slab are of similar construction. Hollow clay tile infill was used at the raised slabs between the concrete beams (Figure 5). In General Ward 40 and 50 (LACO Nos. 1185 and 1186) and possibly others, wood roof framing has been constructed on top of the concrete slab.

The interior walls are typically made of hollow clay tile, occasionally two wythes thick. The cavity walls are open above, which provides some venting for the building (Figure 3)[1]. These vent openings in the slab occur in the first and second floors. In some General Ward buildings, additional partition walls were constructed of plaster over metal stud; these are not part of the original construction.

There is a concrete side ramp at each entrance to the building. There are two interior stair accesses to the second floor, located at the front and rear entrances to the building. The stairs appear to be steel with concrete pan.

This building, LACO No. 1184, is connected on the west end to the adjacent LACO No. 1185 by a covered (though non-enclosed) hyphen, shown in Figure 4. This connecting structure acts as a porch and walkway between LACO Nos. 1184, 1885, and 1262, though it does not appear to be connected to LACO No. 1262.

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

Condition Assessment

The following assessment discusses the existing conditions at all five General Ward buildings. The conditions are similar at each building, though the extent of damage varies somewhat. Only the first floor of each building was accessible for observation due to safety concerns. It is assumed that the second floor is in a state similar to the first.

Significant fire damage and water damage was noted in the General Ward buildings (Figures 6-9). In LACO No. 1184, 75% to 100% of the first floor has extensive fire damage. In LACO Nos. 1185 and 1186, standing water and/or water damage was observed (Figure 9). In LACO No. 1186, the entire ground floor appears to have standing water and/or water damage. Long term exposure to collected water on concrete is known to corrode reinforcement; the slabs may be weakened. LACO Nos. 1187 and 1188 appear to have the least damage but are still in poor condition. Evidence of fire was not apparent in the areas observed at those two buildings.

Deterioration of concrete and plaster is apparent on the interior and exterior walls and ceilings, leaving the hollow clay tile exposed (Figures 10-12). Many of the interior walls are cracked, especially in LACO No. 1184 (Figure 13). This cracking may be due to fires that have occurred in the buildings; heating of the wall material leads to expansion which can cause cracking.

Since the building has suffered high temperatures from fire, additional testing will be required to investigate the condition and capacity of the existing floors, roof, walls, and ceiling. Where concrete slabs were exposed to fire for a prolonged period of time, the slab has likely weakened and may require replacement (Figure 14). In many places throughout the General Ward buildings, the capacity of the structure is visibly compromised. Many of the walls have large sections missing, as seen in Figure 7. The hollow clay tile ceiling is considered too brittle to provide adequate strength, and it presents a potential falling hazard which could cause injury and block egress. In the hallway of LACO No. 1184, the hollow clay tiles infilling the second floor have split in half; the bottom halves have fallen to the ground (Figure 5). Delamination has occurred at many of the concrete beams; the rebar is visible and rusted (Figure 15).

Raised roofing over wood framing was constructed over the concrete roof slab (Figure 16). This was probably done to provide roof slope for drainage. There is a roof vent housing, which occurs in LACO No. 1186 and some of the other buildings (Figure 17). The presence or absence of lateral bracing in the roof vent structure could not be ascertained from the visual inspection.

The first-floor concrete slab and columns at the crawl space were observed in 2007 and appeared to be in good condition at the time (Figure 18). They are likely in decent condition but should be checked for deterioration and strengthened if needed.

Cracks were found on the hyphens connecting the buildings (Figure 19). Exposure to the elements and insufficient concrete cover has caused delamination, corrosion of the reinforcement, and spalling of the concrete slab and beams at the hyphens (Figure 20). No seismic gap between the structures was observed, which may result in significant cracking and damage in the event of an earthquake, as each pair of connected buildings will move independently of each other.

Evaluation of Structural Performance

The information herein applies to the five General Ward buildings. The buildings have a good geometrical shape, no vertical discontinuities, and no mass irregularities. However, there is insufficient lateral resistance to forces that would be expected during a moderate earthquake. A new lateral system will need to be installed to provide proper resistance. While a steel braced frame system would generally be recommended for this type of structure, the braces could obstruct the view through the windows. Since the windows of these buildings are an important character-defining feature of the property, even if the windows remain intact, an obstructed view would affect the historical significance

and architectural appearance of the buildings. Therefore, the braced frame may not be appropriate for the retrofit of this set of buildings. A steel moment frame could be considered but would likely be too flexible compared to the existing building system, leading to significant damage in the case of a moderate earthquake. For these reasons, a concrete moment frame system is recommended to provide added lateral strength for the General Ward buildings. The concrete frames will be installed at the interior of the perimeter walls, with dowels connecting the new frame to the existing walls or columns.

The absence of seismic gaps between the buildings and their connecting structures may result in pounding during an earthquake. This is associated with a potential risk of falling hazards and partial collapse. Hollow clay tiles, pieces of concrete, and other items may fall during shaking, causing injury and blocking egress. Additionally, the inability for the structures to move independently could lead to damaged connections, compromising the gravity support system and the safety of anyone inside. Seismic joints should be installed between the hyphen and each building, to better allow the structures to move independently from one another.

Based on methods typical of the time of construction, it is assumed the columns and column-beam connections are not properly reinforced. Additionally, deterioration of concrete was found throughout all five buildings, and the ASCE 41 in-plane shear quick check indicates a possible deficiency in wall strength.

Some areas of the slab reinforcing steel meet the ASCE 41 minimum requirements. However, the beams and column bar splicing, ties, and stirrup spacing do not meet the minimum ASCE 41 requirements. The floor and roof diaphragms are not directly connected to the concrete and masonry walls, and the hollow clay tile infill (at diaphragms and walls) cannot be assumed to carry any lateral strength due to the fragile, brittle nature of the material. It is unknown if the wall reinforcement is doweled into the foundation, a connection that would be essential to earthquake design. Hollow clay tiles were used extensively throughout the building, but they are expected to perform very poorly. These tiles are very brittle and vulnerable to collapse. They would likely provide little or no strength for lateral resistance. They also present a significant potential safety threat as they are expected to crack, break, and fall in the case of an earthquake, fire, or even prolonged use, which could cause injuries and block egress.

Summary of Proposed Upgrades

The expected seismic performance of this building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Install new concrete moment frames at the building perimeter. This retrofit approach is expected to be the best option for preserving the architectural appearance and character-defining features of the building. The new frames should be doweled to the interior side of the existing perimeter walls and/or columns.
- Install new concrete shear walls or concrete moment frames in the building interior to reduce stresses on existing walls. Depending on where these frames or walls need to be installed following analysis, some window or door openings may be partially or fully obstructed. The new frames or shear walls are likely to compromise any large open areas inside the building.
- Concrete footings will need to be installed beneath any new frames and new shear walls; the walls and/or frames will need to be properly connected into the footings.

- Shotcrete existing exterior walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the concrete to properly connect the existing wall to the shotcrete.
- Add a form of protective enclosure throughout the building where hollow clay tile (HCT) infill occurs, to mitigate potential falling hazards. Approximately 75% to 100% of the slabs (ceilings) consist of HCT infill, which may present a falling hazard. Enclosures to mitigate potential falling hazards from the ceiling HCT infill could include nets, mesh, or new plaster coverings. If shotcrete is applied to exterior walls, it can be designed to provide similar protection to mitigate the potential falling hazards from the tiles at the exterior walls.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Approximately 75% to 100% of the building's interior walls consist of HCT. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other possible risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in the event of damage or collapse.

Diaphragm

- Strengthen connections between the concrete slab (diaphragm) and all existing lateral elements such as ties, drag beams, etc. Strengthen any existing connections between the diaphragm and the walls.
- Install new steel anchors between walls and diaphragm for out-of-plane forces. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace the deteriorated concrete. Patch and grout the reinforced concrete that appears to be spalling and cracking at the floor, roof, and walls. Some reinforcement appears severely corroded and may be structurally compromised; in these locations additional strengthening or remediation may be required.
- Apply moisture sealant as needed to the underside of the roof and floor to further protect reinforcement with inadequate concrete cover.
- Provide adequate roof drainage, to ensure minimal exposure to water at roof slab.
- Test and analyze all slabs; strengthen as needed.
- One or a combination of the following measures are suggested to mitigate spalling, cracking, and failure due to inadequate detailing of column-beam connections:
    - Shotcrete existing beams and columns to increase durability and strength. This could affect the appearance of some of the beamed ceilings identified as character-defining features on the buildings.
    - Surface coat the column-beam connection regions with fiber reinforced polymer (FRP) to minimize damage from rotation. This could affect the appearance of some of the beamed ceilings listed as character-defining features.
- Provide adequate lateral support for roof vent housing. This could be accomplished by either steel bracing or increasing the shear strength of the walls.
- Provide a seismic joint at the hyphens to mitigate the risk of pounding during an earthquake and possible falling hazards or egress obstruction, both of which could present a life-safety risk. The gap width at the joint should be sized following analysis but would likely not exceed three inches. A joint should be installed at each end of each hyphen.

- Analyze the existing strength of structural elements exposed to fire. Replace any elements that have significant loss of strength due to high temperatures. It is expected that roughly 50% to 100% of all structural elements will need strengthening or replacement.
- Encapsulate all hollow clay tile slabs, ceilings, and walls as described above.
- Additional bracing of the concrete parapets listed as a character-defining feature may also be required. This could likely be done on the interior side of the parapets only. Anchors would need to be drilled and installed into the existing concrete. The appearance of the interior elevation of the parapets would be affected; however, the exterior character-defining visual appearance will be maintained.

Figure 1: East Elevation, LACO Nos. 1184 (right) through 1186 (left).

Figure 2: Exterior Elevation (shown at LACO No. 1188)

Figure 3: Interior cavity wall (shown at LACO No. 1184)

Figure 4: Connecting hyphen between LACO No. 1184 and 1185

Figure 5: Broken hollow clay tile infill at second-floor slab; spalled concrete and exposed rebar at second-floor beams (shown at LACO No. 1184)

Figure 6: Fire damaged walls (shown at LACO No. 1184)

Figure 7: Fire damage at LACO No. 1186

Figure 8: Fire damage to underside of stair (shown at LACO No. 1184)

Figure 9: Standing water on interior slab (shown at LACO No. 1185)

Figure 10: Exterior wall condition (shown at LACO No. 1186)

Figure 11: Exterior wall condition with exposed hollow clay tile (shown at LACO No. 1186)

Figure 12: Deteriorated plaster ceiling and exposed hollow clay tile (shown at LACO No. 1186)

Figure 13: Diagonal cracks in an interior wall (shown at LACO No. 1184)

Figure 14: Roof slab exposed to fire (shown at LACO No. 1184)

Figure 15: Delamination of concrete beam and exposed rebar (shown at LACO No. 1186)

Figure 16: Wood roof over concrete slab (shown at LACO No. 1186)

Figure 17: Roof vent housing (shown at LACO No. 1186)

Figure 18: Crawl space under first-floor slab (shown at LACO No. 1188)

Figure 19: Cracking and deterioration at the hyphen connecting LACO No. 1184 and 1185

Figure 20: Fallen ceiling, delamination of concrete slab and beams at the hyphen connecting LACO No. 1184 and 1185

C LACO No. 1184 (General Ward 30) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

General Ward 30 (LACO 1184)

MGAC

Feasibility Study Cost Plan — General Ward 30 (LACO 1184)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 30 (LACO 1184)		14,500	499.59	7,244
SUB-TOTAL BUILDING CONSTRUCTION			14,500	499.59	7,244
S1	Sitework		5,000	88.80	444
	Premium for enhanced sustainable site features				115
SUB-TOTAL SITEWORK					559
TOTAL BUILDING AND SITEWORK					**7,803**
Escalation to Midpoint (Jul 2021)		11.7%			910
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			697
	Project Management Consultant Services	3.0%			282
	FF & E	5.8%			562
	Taxes and Indirect Fees	1.0%			103
	Building Permit and Other Agency Fees	1.5%			155
	Owner Contingency/Construction Contingency	25.0%			2,628
Recommended Budget					***13,140***

Feasibility Study Cost Plan — General Ward 30 (LACO 1184) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	7,250		
Level 2	7,250		
Subtotal of Enclosed Areas	14,500		
TOTAL GROSS FLOOR AREA	**14,500**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		2	EA	0.000
Gross Area		14,500	SF	1.000
Enclosed Area		14,500	SF	1.000
Footprint Area		7,250	SF	0.500
Volume		224,750	CF	15.500
Gross Wall Area		10,300	SF	0.710
Finished Wall Area		10,300	SF	0.710
Windows or Glazing	27%	2,800	SF	0.193
Roof Area - Flat		7,250	SF	0.500
Roof Area - Total		7,250	SF	0.500
Interior Partitions		530	LF	0.037
Finished Area		14,500	SF	1.000

MGAC

Feasibility Study Cost Plan — General Ward 30 (LACO 1184) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	14,500 SF	
A10	Foundations		3%	13.76	200
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	13.76	200
B10	Superstructure		14%	70.34	1,020
B20	Exterior Enclosure		8%	38.18	554
B30	Roofing		2%	12.25	178
B	Shell		24%	120.78	1,751
C10	Interior Construction		3%	14.38	209
C20	Stairways		0%	2.07	30
C30	Interior Finishes		10%	48.23	699
C	Interiors		13%	64.68	938
D10	Conveying Systems		1%	6.90	100
D20	Plumbing Systems		4%	21.10	306
D30	Heating, Ventilation & Air Cond.		10%	50.55	733
D40	Fire Protection		1%	7.00	102
D50	Elect'l Lighting, Power & Comm.		17%	83.32	1,208
D	Services		34%	168.87	2,449
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	10.51	152
E	Equipment & Furnishings		2%	10.51	152
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	12.61	183
F	Special Construction & Demolition		3%	12.61	183
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	391.21	5,673
Z10	Design Contingency	10.00%	8%	39.12	567
Z11	General Requirements	4.00%	3%	17.21	250
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	447.54	6,489
Z21	General Conditions	6.00%	5%	26.85	389
Z22	Bonds & Insurance	1.50%	1%	7.12	103
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	18.06	262
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	499.57	7,244
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	499.59	7,244

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				112,500
Foundation upgrade	7,250	SF	10.00	72,500
New elevator pit	1	LS	40,000.00	40,000
A1030 Slab On Grade				87,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	2,900	SF	30.00	87,000
Remove/replace ramp including railings				*site*
				199,500
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				875,000
Strengthen connections between floors and lateral elements	7,250	SF	10.00	72,500
Install new moment frames at the building perimeter	14,500	SF	30.00	435,000
Elevator corewalls	1,300	SF	75.00	97,500
Patch/repair damaged suspended slab, allow 75%	5,400	SF	50.00	270,000
Lightweight concrete topping, 1-1/2"				*n/a*
B1020 Roof Construction				145,000
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	7,250	SF	20.00	145,000
				1,020,000

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				222,480
Patch, repair plaster exterior walls, allow 40%	4,120	SF	14.00	57,680
Painting to exterior walls	10,300	SF	3.00	30,900
Loose fill insulation				*n/a*
Plaster and repaint interior face of exterior walls	10,300	SF	13.00	133,900
B2020 Exterior Windows				319,200
Strip and remove rust, retrofit existing wood framed windows, replace hardware, install new high performance glazing	2,240	SF	110.00	246,400
New windows similar kind (high performance glazing), allow 20%	560	SF	130.00	72,800
B2030 Exterior Doors				12,000
New exterior doors	4	EA	3,000.00	12,000
				553,680
B30 Roofing				
B3010 Roof Coverings				177,625
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	7,250	SF	24.50	177,625
B3020 Roof Openings				
				177,625
C10 Interior Construction				
C1010 Partitions				84,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	2,100	SF	40.00	84,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				34,500
New wood doors including frames and hardware	15	EA	2,300.00	34,500
C1030 Fittings				90,000
Toilet partitions and accessories	16	EA	2,000.00	32,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	14,500	SF	4.00	58,000
				208,500
C20 Stairways				
C2010 Stair Construction				20,000
Repair/repaint existing stairs and railing	2	EA	10,000.00	20,000
C2020 Stair Finishes				10,000
New stair finishes	2	EA	5,000.00	10,000
				30,000
C30 Interior Finishes				
C3010 Wall Finishes				78,290
Patch/repair wall plaster, allow 30%	3,000	SF	14.00	42,000
Painting to interior partitions	10,600	SF	1.25	13,250
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
C3020 Floor Finishes				113,500
Patch/repair existing floor finish including base, allow 75%	10,900	SF	10.00	109,000
Existing to remain, allow for cleaning, allow 25%	3,600	SF	1.25	4,500
C3030 Ceiling Finishes				507,500
New gypsum plaster ceiling on wood lathe	14,500	SF	35.00	507,500
				699,290

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
D1010 Elevators & Lifts				100,000
Passenger elevator, 2 stops	1	EA	100,000.00	100,000
				100,000
D20 Plumbing Systems				
D2010 Plumbing Fixtures				48,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	24	EA	2,000.00	48,000
D2020 Domestic Water Distribution				84,500
Domestic service pipework				
Hose bibs, 3/4" (allowance)	2	EA	2,500.00	5,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	24	EA	3,000.00	72,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				115,500
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	14,500	SF	2.00	29,000
Condensate drainage pipework, fittings, < = 1-1/2", insulated	14,500	SF	1.00	14,500
Waste, vent, fittings, < = 6"	24	EA	3,000.00	72,000
D2040 Rain Water Drainage				43,500
Surface water drainage				
Roof & overflow drains, < = 6"	14,500	SF	3.00	43,500

	Quantity	Unit	Rate	Total
D2090 Other Plumbing Systems				14,500
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	14,500.00	14,500
				306,000
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				158,375
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	750	mbth	27.50	20,625
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	14,500	SF	1.50	21,750
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	14,500	SF	8.00	116,000
D3040 Distribution Systems				329,422
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	18,125	LB	12.00	217,500
Dampers	1	LS	21,750.00	21,750
Insulation	13,594	SF	4.50	61,172
Diffusers, registers and grilles	14,500	SF	2.00	29,000
D3050 Terminal & Package Units				154,500
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	15	EA	1,000.00	14,500
D3060 Controls and Instrumentation				65,250
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	14,500	SF	4.50	65,250

	Quantity	Unit	Rate	Total
D3070 Systems Testing & Balancing				21,750
Test and balance air systems	14,500	SF	1.50	21,750
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				733,047
D40 Fire Protection				
D4010 Sprinklers				101,500
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	14,500	SF	7.00	101,500
				101,500
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				301,875
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,200	AM	65.00	78,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels	20	KW	5,000.00	100,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	14,500	SF	3.50	50,750

	Quantity	Unit	Rate	Total
D5020 Lighting & Branch Wiring				580,000
User convenience power				
Panel board breakers, 120 V circuits	14,500	SF	2.00	29,000
Receptacles, including conduit and cable	14,500	SF	5.50	79,750
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	14,500	SF	27.50	398,750
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	14,500	SF	5.00	72,500
D5030 Communications & Security				203,000
Telephone and communications				
Telephone/data - including conduit & cable	14,500	SF	6.50	94,250
WAP	14,500	SF	1.00	14,500
DAS - Emergency response & cellular	14,500	SF	4.00	58,000
Cable tray/wire-way/j-hooks	14,500	SF	1.00	14,500
Audiovisual rough-in	14,500	SF	1.50	21,750
D5090 Other Electrical Systems				123,250
Fire alarm systems	14,500	SF	4.50	65,250
Security - perimeter access control & CCTV surveillance	14,500	SF	4.00	58,000
				1,208,125

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				152,400
Cabinets, countertops shelving and millwork	100	LF	1,000.00	100,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	2,800	SF	15.00	42,000

	Quantity	Unit	Rate	Total
Entrance mat	1	LS	5,000.00	5,000
				152,400

F10 Special Construction

				0

F20 Selective Demolition

F2010 Building Elements Demolition				74,130
Selective demolition				
Exterior window	560	SF	5.00	2,800
Doors	4	EA	150.00	600
Built-up roofing including roof sheathing	7,250	SF	2.00	14,500
Demo/remove 75% of existing partitions	6,400	SF	3.00	19,200
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	14,500	SF	2.50	36,250
Allow for clearing/removal of storage debris	12	MH	65.00	780
F2020 Hazardous Components Abatement				108,750
Hazmat abatement - allowance	14,500	SF	7.50	108,750
				182,880

MGAC

Feasibility Study Cost Plan — General Ward 30 (LACO 1184)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - General Ward 30 (LACO 1184)				
Gross Site Area	12,300	SF		
Building footprint	7,250	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	25.00	125,000
Premium for permeable paving	2,500	SF	13.00	32,500
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	5,000	SF	6.00	30,000
Site Utilities	5,000	SF	25.00	125,000
Alternate Cost Before Markups				**347,500**
Z10 Design Contingency	10.00%			34,750
Z11 General Requirements	4.00%			15,290
Z21 General Conditions	6.00%			23,852
Z22 Bonds & Insurance	1.50%			6,321
Z23 Contractor's Overhead, Profit & Fee	3.75%			16,039
Z30 See Overall Summary for Escalation	0.00%			
				443,753

D LACO No. 1184 (General Ward 30) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
General Ward 30 #1184

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the General Ward 30 (LACO #1184) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for General Ward 30 #1184 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for General Ward 30 (LACO #1184), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is the stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction system. Provide rain leader extensions to*

		take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. Minimal landscaping is at south side of courtyard. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed, as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present, and to make recommendations for abatement, and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations*

		• *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or*

		licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept	No; there is considerable plant

	from becoming overgrown?	overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Main entrance door and landing	
2	North elevation	

3	Interior damage and debris with fire damage	
4	Typical interior	

E LACO No. 1184 (General Ward 30) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

General Ward 30 (LACO 1184)

MGAC

Mothballing Cost Plan — General Ward 30 (LACO 1184)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 30 (LACO 1184)		14,500	25.03	363
TOTAL BUILDING CONSTRUCTION			14,500	25.03	363
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**363**
Escalation to Midpoint (Jul 2021)		11.7%			42
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			16
	Project Management Consultant Services	2.0%			8
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			4
	Building Permit and Other Agency Fees	1.5%			6
	Owner Contingency/Construction Contingency	10.0%			44
Recommended Budget					***483***

MGAC

Mothballing Cost Plan — General Ward 30 (LACO 1184)

Item Description	Quantity	Unit	Rate	Total
1.) General Ward 30 (LACO 1184)				
No of floors	***2***	***EA***		
Gross Floor Area	***14,500***	***SF***		
Gross Wall Area	***10,300***	***SF***		
Roof Area	***7,250***	***SF***		
Windows Area	***2,800***	***SF***		
Gross Site Area	***12,300***	***SF***		
Building footprint	***7,250***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	14,500	SF	2.50	36,250
Repaint exterior walls	10,300	SF	2.00	20,600
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	2,800	SF	25.00	70,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	10,300	SF	0.10	1,030
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	7,250	SF	15.00	108,750
Termites, ants, rodents etc - inspection and allowance for treatment	14,500	SF	0.25	3,625
Install smoke & fire detectors including wiring	14,500	SF	1.00	14,500
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	5	EA	275.00	1,375
Remove debris and broom clean	14,500	SF	0.75	10,875
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**282,205**
Z10 Design Contingency	15.00%			42,331
Z11 General Requirements	3.00%			9,736
Z21 General Conditions	3.00%			10,028
Z22 Bonds & Insurance	1.50%			5,164
Z23 Contractor's Overhead, Profit & Fee	3.75%			13,105
				362,569

Feasibility Study Reports for LACO No. 1185 (General Ward 40)

Primary Contributor

ESA

A LACO No. 1185 (General Ward 40) – Architectural Assessment Report

General Ward 40 (LACO 1185)

14,924 s.f.
Primary Contributor to Historic District

Building Description

One of five nearly identical buildings, General Ward 40 (LACO No. 1185) is located on the west side of Erikson Avenue and is positioned centrally in a row of four General Ward buildings that are sited northwest of the intersection of Erickson Avenue and Bonita Street. One additional building is located south of Bonita Street. Reflecting a stripped Classical Revival design, General Ward 40 is two-stories in height with a rectangular plan and a symmetrical east-facing façade. The building sits on a concrete foundation and has reinforced concrete exterior walls covered in paint, textured stucco. The flat roof is surmounted by a flat, monitor roof projection wrapped in a continuous linear band of metal louver vents. At the top of the wall plate, a crown molding is topped by a plain, projecting cornice. A continuous blind arcade divides the east (primary) and west (rear) elevations into two bays, each bay containing two groups of four windows on each level. The blind arcade defines ten bays on the north and south elevations. Fenestration on these elevations is mostly single windows, two per bay. Windows are primarily wood-framed, one-over-one, double-hung sash topped by hopper type transoms. A bridge connects the west end of the building to General Ward 30 to the north, and a one-story hyphen connects to General Ward 50 to the south and to the Dining Room/Staff /Kitchen/Commissary complex. Primary entrances are located at the east and west ends of the north and south elevations and are accessed by concrete ramps edged by pipe railings. Secondary entrances are located centrally on the north, south, and rear elevations. Both original, single and double wood doors and metal replacement doors are present.[1]

Statement of Significance

The significance of LACO No. 1185 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> General Ward 40 (LACO No. 1185) was constructed in circa 1915 to house patients of the Poor Farm. It also functioned as a wheelchair repair shop, then office and storage space until circa the 1980s and 1990s, when it was abandoned along with much of the rest of the South Campus. ESA evaluated LACO No. 1185 under the following historical themes: Development of the Los Angeles County Poor Farm and Rancho Los Amigos (1888-1952). Based upon its date of construction and building type, LACO No. 1185 appears significant for its association with the Development of Rancho Los Amigos (1907-1932) era. LACO No. 1185 retains sufficient integrity to convey its original use as living quarters for patients

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 201 (LACO No. 1185),* prepared for the County of Los Angeles June 2, 2008.

of the Poor Farm. Though degraded, it is still intact and, in its present condition, retains integrity of location, setting, design materials, workmanship, feeling, and association. LACO No. 1185 retains sufficient integrity to convey its historical associations with the transition of the property from a poor farm to long-term care facility. Therefore, ESA recommends that the eligibility of LACO No. 1185 remain unchanged and that it continues to be considered a contributor to the District. ESA recommends that LACO No. 1185 retain its existing NRHP status code of 2D2, noting it as a contributor to the District.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** Building has a built-up roof. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters – are in need of repair or replacement.	• **7,400 s.f.**
• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **10,300 of plaster concrete**

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, General Ward 40 (LACO No. 1185),* prepared for the County of Los Angeles January 8, 2018.

• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **4 exterior doors**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **56- 3'x8' wood windows** • **17- 8'x10' window assemblies.**

Interior spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage of the flooring was observed as well as visible standing water on flooring materials.	• **14,954 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Some have been fire damaged.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, which have been severely damaged.	• **14,924 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

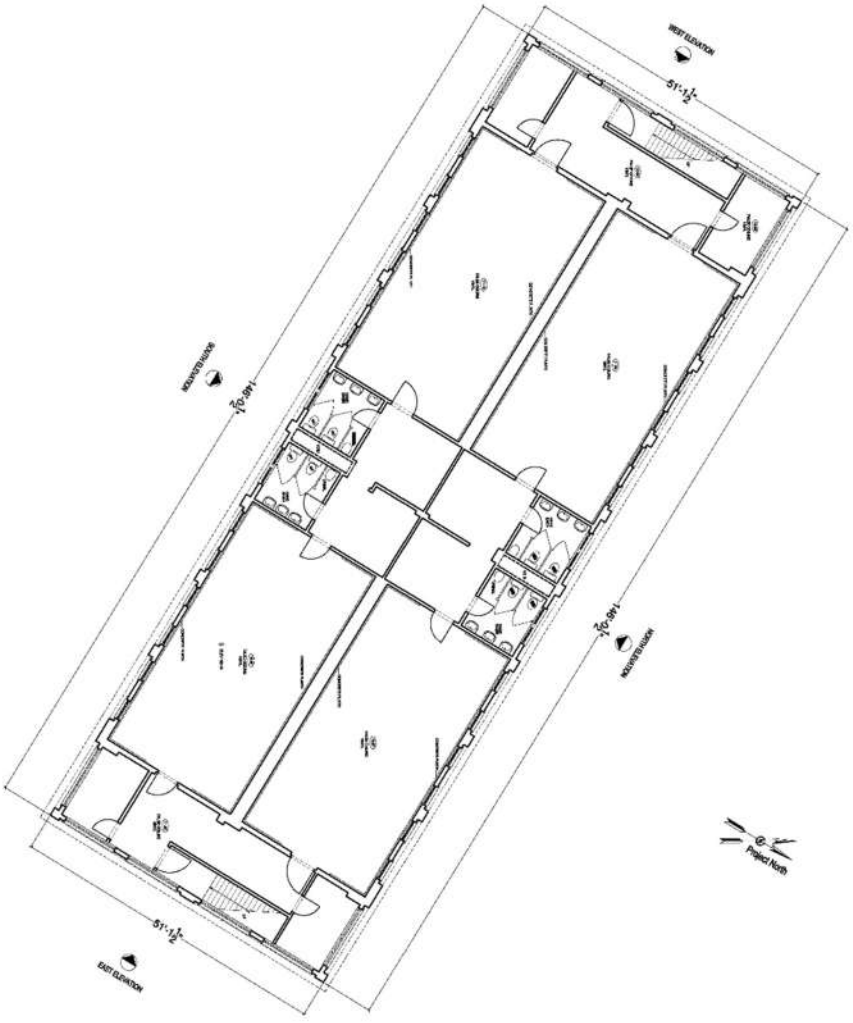
• **Roofing** – Replace entire built-up roof with a single ply, waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **7,400 s.f.**
• **Exterior walls**- Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage to interior faces.	• **10,300 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace, in-kind.	• **56- 3'x8' wood windows** • **17- 8'x10' window assemblies.** • **Assume 20% replace in kind**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building.	• **5,000 s.f. courtyard.**

Interior Spaces

It is assumed that this 14,924 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted in order to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **14, 924 s.f.** • **Assume 75% repair**
• **Walls –** Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow Clay tile walls to be encapsulated with 4" 16 ga. Metal studs and gyp bd. Each	• **10,300 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout.	• **14, 924 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 l.f.**
• **Lighting –** Provide new high-efficiency LED lighting and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **1 restroom core per floor-8 fixtures plus 4 sinks total**
• **Elevator –** Provide new 3,000 lb. elevator.	• **(1) 3,000 lb. elevator**
• **Electrical** – Provide new 1200 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	

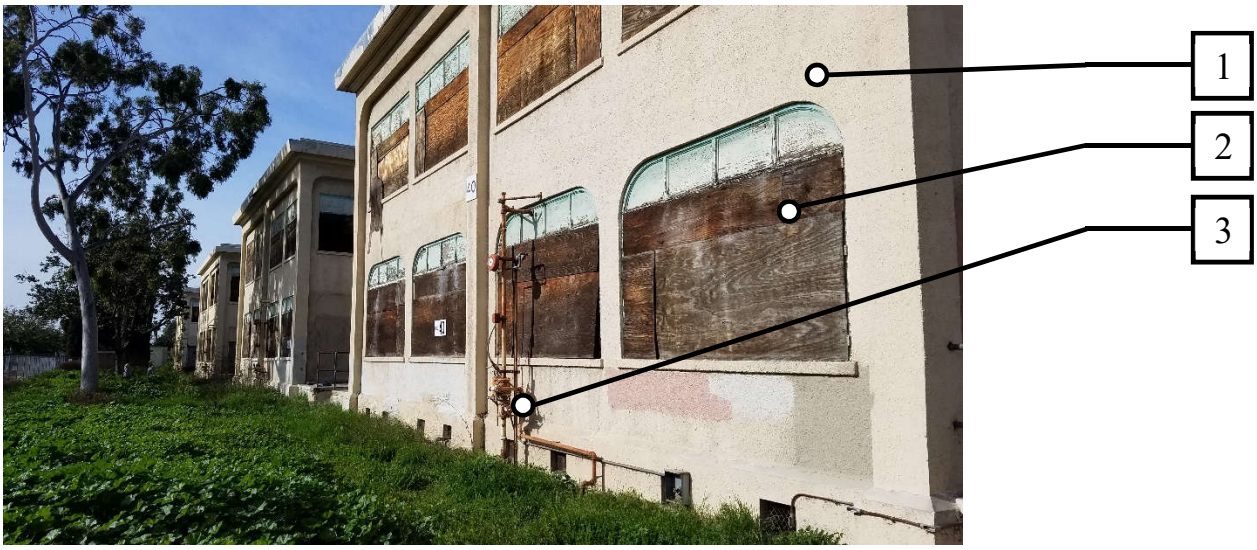
GENERAL
WARDS 30-70 -
SIMILAR



SOURCE: Mollenhaur Group

March 2007

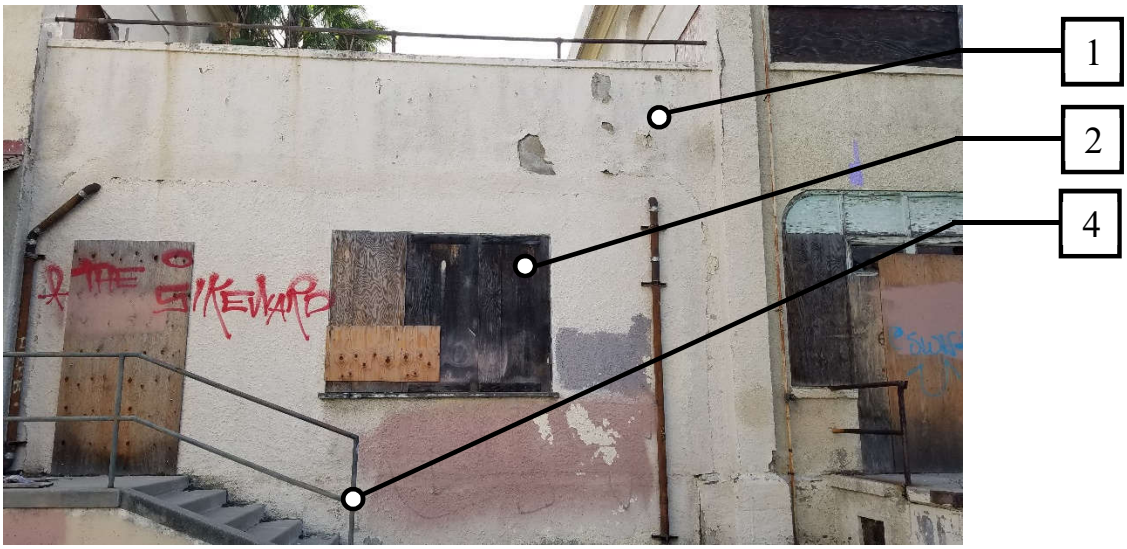
HABS DOCUMENTATION for Los Angeles County Poor Farm	General Ward Building 70 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-H



East Elevation

Rear Entry and Stairs

1. Paint and patch plaster throughout.
2. Remove plywood, repair windows or replace “in kind”.
3. Remove and patch plumbing lines.
4. Provide new steel guardrail assembly.



Rear Entry

1. Paint and patch plaster throughout.
2. Remove plywood, repair windows or replace “in kind”.
3. Remove and patch plumbing lines.
4. Provide new steel guardrail assembly.

B LACO No. 1185 (General Ward 40) – Structural Assessment Report

Structural Assessment: General Ward 40
(LACO NO. 1185)

Summary of Assessment

This building is one of a group of five General Ward buildings (LACO Nos. 1184, 1185, 1186, 1187, and 1188), which were constructed between 1913 and 1929. Each of these buildings is rectangular in plan, and the buildings are situated adjacent to each other with their long dimensions running from east to west. The two-story structures feature concrete floors and roof slabs. Each building is approximately 14,900 square feet. This report describes conditions and suggested upgrades representative of the entire set of buildings, with some information specific to LACO No. 1185.

The building appears to be in poor condition. Cracking and deterioration of building materials, along with water damage, were noted throughout the structure. Based on findings at the other General Ward buildings, there is likely fire damage as well. The expected seismic performance of this building, in its current condition, is poor. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this General Ward building. A detailed summary of these measures is included in the final section of this report. However, retrofitting older, nonductile concrete structures to meet a Life Safety Performance Level requires extensive inspection, materials testing, and strengthening.

Description of the Building

Each General Ward building is a two-story concrete structure that stands approximately 31 feet in height with concrete floors and roof slabs. Each building is approximately 14,000 to 15,000 square feet. The exterior walls are concrete frames with hollow clay tile infill. The walls are supported by a slab and stem wall, connected to the concrete foundation. There are columns along the exterior wall at every other window pier, extending from the foundation to the roof and connecting to a perimeter beam (Figure 2). Based on the few sheets of as-built drawings available for review, the columns have minimal reinforcement and would likely need to be strengthened. The first floor is a 4-inch concrete slab with beams, raised on a stem wall to create a crawl space. The majority of the slab is reinforced with 3/8-inch square rods at 6 inches on center each way. The second-floor slab and roof slab are of similar construction. Hollow clay tile infill was used at the raised slabs between the concrete beams (Figure 5). In General Ward 40 and 50 (LACO Nos. 1185 and 1186) and possibly others, wood roof framing has been constructed on top of the concrete slab.

The interior walls are typically made of hollow clay tile, occasionally two wythes thick. The cavity walls are open above, which provides some venting for the building (Figure 3)[1]. These vent openings in the slab occur in the first and second floors. In some General Ward buildings, additional partition walls were constructed of plaster over metal stud; these are not part of the original construction.

There is a concrete side ramp at each entrance to the building. There are two interior stair accesses to the second floor, located at the front and rear entrances to the building. The stairs appear to be steel with concrete pan.

This building, LACO No. 1185, is connected on the west end to the adjacent LACO No. 1184 by a covered (though non-enclosed) hyphen, shown in Figure 4. This connecting structure acts as a porch and walkway between LACO Nos. 1184, 1885, and 1262, though it does not appear to be connected to LACO No. 1262. An enclosed hyphen

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

between LACO No. 1185 and LACO No. 1186 at the west end of the buildings connects both the first and second floors.

Condition Assessment

The following assessment discusses the existing conditions at all five General Ward buildings. The conditions are similar at each building, though the extent of damage varies somewhat. Only the first floor of each building was accessible for observation due to safety concerns. It is assumed that the second floor is in a state similar to the first.

Significant fire damage and water damage was noted in the General Ward buildings (Figure 6-9). In LACO No. 1184, 75% to 100% of the first floor has extensive fire damage. In LACO Nos. 1185 and 1186, standing water and/or water damage was observed (Figure 9). In LACO No. 1186, the entire ground floor appears to have standing water and/or water damage. Long term exposure to collected water on concrete is known to corrode reinforcement; the slabs may be weakened. LACO Nos. 1187 and 1188 appear to have the least damage but are still in poor condition. Evidence of fire was not apparent in the areas observed at those two buildings.

Deterioration of concrete and plaster is apparent on the interior and exterior walls and ceilings, leaving the hollow clay tile exposed (Figures 10-12). Many of the interior walls are cracked, especially in LACO No. 1184 (Figure 13). This cracking may be due to fires that have occurred in the buildings; heating of the wall material leads to expansion which can cause cracking.

Where the building has suffered high temperatures from fire, additional testing will be required to investigate the condition and capacity of the existing floors, roof, walls, and ceiling. Where concrete slabs were exposed to fire for a prolonged period of time, the slab has likely weakened and may require replacement (Figure 14). In many places throughout the General Ward buildings, the capacity of the structure is visibly compromised. Many of the walls have large sections missing, as seen in Figure 7. The hollow clay tile ceiling is considered too brittle to provide adequate strength, and it presents a potential falling hazard which could cause injury and block egress. In the hallway of LACO No. 1184, the hollow clay tiles infilling the second floor have split in half; the bottom halves have fallen to the ground (Figure 5). Delamination has occurred at many of the concrete beams; the rebar is visible and rusted (Figure 15).

Raised roofing over wood framing was constructed over the concrete roof slab (Figure 16). This was probably done to provide roof slope for drainage. There is a roof vent housing, which occurs in LACO No. 1186 and some of the other buildings (Figure 17). The presence or absence of lateral bracing in the roof vent structure could not be ascertained from the visual inspection.

The first-floor concrete slab and columns at the crawl space were observed in 2007 and appeared to be in good condition at the time (Figure 18). They are likely in decent condition but should be checked for deterioration and strengthened if needed.

Cracks were found on the hyphens connecting the buildings (Figure 19). Exposure to the elements and insufficient concrete cover has caused delamination, corrosion of the reinforcement and spalling of the concrete slab and beams at the hyphens (Figure 20). No seismic gap between the structures was observed, which may result in significant cracking and damage in the event of an earthquake, as each pair of connected buildings will move independently of each other.

Evaluation of Structural Performance

The information herein applies to the five General Ward buildings. The buildings have a good geometrical shape, no vertical discontinuities, and no mass irregularities. However, there is insufficient lateral resistance to forces that would be expected during a moderate earthquake. A new lateral system will need to be installed to provide proper resistance.

While a steel braced frame system would generally be recommended for this type of structure, the braces could obstruct the view through the windows. Since the windows of these buildings are an important character-defining feature of the property, even if the windows remain intact, an obstructed view would affect the historical significance and architectural appearance of the buildings. Therefore, the braced frame may not be appropriate for the retrofit of this set of buildings. A steel moment frame could be considered but would likely be too flexible compared to the existing building system, leading to significant damage in the case of a moderate earthquake. For these reasons, a concrete moment frame system is recommended to provide added lateral strength for the General Ward buildings. The concrete frames would be installed at the interior of the perimeter walls, with dowels connecting the new frame to the existing walls or columns.

The absence of seismic gaps between the buildings and their connecting structures may result in pounding during an earthquake. This is associated with a potential risk of falling hazards and partial collapse. Hollow clay tiles, pieces of concrete, and other items may fall during shaking, causing injury and blocking egress. Additionally, the inability for the structures to move independently could lead to damaged connections, compromising the gravity support system and the safety of anyone inside. Seismic joints should be installed between the hyphen and each building, to better allow the structures to move independently from one another.

Based on methods typical of the time of construction, it is assumed the columns and column-beam connections are not properly reinforced. Additionally, deterioration of concrete was found throughout all five buildings, and the ASCE 41 in-plane shear quick check indicates a possible deficiency in wall strength.

Some areas of the slab reinforcing steel meet the ASCE 41 minimum requirements. However, the beams and column bar splicing, ties, and stirrup spacing do not meet the minimum ASCE 41 requirements. The floor and roof diaphragms are not directly connected to the concrete and masonry walls, and the hollow clay tile infill (at diaphragms and walls) cannot be assumed to carry any lateral strength due to the fragile, brittle nature of the material. It is unknown if the wall reinforcement is doweled into the foundation, a connection that would be essential to earthquake design. Hollow clay tiles were used extensively throughout the building, but they are expected to perform very poorly. These tiles are very brittle and vulnerable to collapse. They would likely provide little or no strength for lateral resistance. They also present a significant potential safety threat as they are expected to crack, break, and fall in the case of an earthquake, fire, or even prolonged use, which could cause injuries and block egress.

Summary of Proposed Upgrades

The expected seismic performance of this building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Install new concrete moment frames at the building perimeter. This retrofit approach is expected to be the best option for preserving the architectural appearance and character-defining features of the building. The new frames should be doweled to the interior side of the existing perimeter walls and/or columns.
- Install new concrete shear walls or concrete moment frames in the building interior to reduce stresses on existing walls. Depending on where these frames or walls need to be installed following analysis, some

window or door openings may be partially or fully obstructed. The new frames or shear walls are likely to compromise any large open areas inside the building.

- Concrete footings would need to be installed beneath any new frames and new shear walls; the walls and/or frames would need to be properly connected into the footings.
- Shotcrete existing exterior walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the concrete to properly connect the existing wall to the shotcrete.
- Add a form of protective enclosure throughout the building where hollow clay tile (HCT) infill occurs, to mitigate potential falling hazards. Approximately 75% to 100% of the slabs (ceilings) consist of HCT infill, which may present a falling hazard. Enclosures to mitigate potential falling hazards from the ceiling HCT infill could include nets, mesh, or new plaster coverings. If shotcrete is applied to exterior walls, it can be designed to provide similar protection to mitigate the potential falling hazards from the tiles at the exterior walls.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Approximately 75% to 100% of the building's interior walls consist of HCT. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other possible risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in the event of damage or collapse.

Diaphragm

- Strengthen connections between the concrete slab (diaphragm) and all existing lateral elements such as ties, drag beams, etc. Strengthen any existing connections between the diaphragm and the walls.
- Install new steel anchors between walls and diaphragm for out-of-plane forces. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace the deteriorated concrete. Patch and grout the reinforced concrete that appears to be spalling and cracking at the floor, roof, and walls. Some reinforcement appears severely corroded and may be structurally compromised; in these locations additional strengthening or remediation may be required.
- Apply moisture sealant as needed to the underside of the roof and floor to further protect reinforcement with inadequate concrete cover.
- Provide adequate roof drainage, to ensure minimal exposure to water at roof slab.
- Test and analyze all slabs; strengthen as needed.
- One or a combination of the following measures are suggested to mitigate spalling, cracking, and failure due to inadequate detailing of column-beam connections:
    - Shotcrete existing beams and columns to increase durability and strength. This could affect the appearance of some of the beamed ceilings identified as character-defining features on the buildings.
    - Surface coat the column-beam connection regions with fiber reinforced polymer (FRP) to minimize damage from rotation. This could affect the appearance of some of the beamed ceilings listed as character-defining features.
- Provide adequate lateral support for roof vent housing. This could be accomplished by either steel bracing or increasing the shear strength of the walls.

- Provide a seismic joint at the hyphens to mitigate the risk of pounding during an earthquake and possible falling hazards or egress obstruction, both of which could present a life-safety risk. The gap width at the joint should be sized following analysis but would likely not exceed three inches. A joint should be installed at each end of each hyphen.
- Analyze the existing strength of structural elements exposed to fire. Replace any elements that have significant loss of strength due to high temperatures. It is expected that roughly 50% to 100% of all structural elements will need strengthening or replacement.
- Encapsulate or strengthen all hollow clay tile slabs, ceilings, and walls as described above.
- Additional bracing of the concrete parapets listed as a character-defining feature may also be required. This could likely be done on the interior side of the parapets only. Anchors would need to be drilled and installed into the existing concrete. The appearance of the interior elevation of the parapets would be affected; however, the exterior character-defining visual appearance would be maintained.

Figure 1: East Elevation, LACO Nos. 1184 (right) through 1186 (left).

Figure 2: Exterior Elevation of LACO No. 1185

Figure 3: Interior cavity wall (shown at LACO No. 1184)

Figure 4: Connecting hyphen between LACO No. 1184 and 1185

Figure 5: Broken hollow clay tile infill at second-floor slab; spalled concrete and exposed rebar at second-floor beams (shown at LACO No. 1184)

Figure 6: Fire damaged walls (shown at LACO No. 1184)

Figure 7: Fire damage at LACO No. 1186

Figure 8: Damage to underside of stair at LACO No. 1185, possibly due to fire

Figure 9: Standing water on interior slab (shown at LACO No. 1185)

Figure 10: Exterior wall condition (shown at LACO No. 1186)

Figure 11: Exterior wall condition with exposed hollow clay tile (shown at LACO No. 1186)

Figure 12: Deteriorated plaster ceiling and exposed hollow clay tile (shown at LACO No. 1185)

Figure 13: Diagonal cracks in an interior wall (shown at LACO No. 1184)

Figure 14: Roof slab exposed to fire (shown at LACO No. 1184)

Figure 15: Deterioration of concrete beam showing rust from exposed rebar; cracking ceiling and exposed HCT (shown at LACO No. 1185)

Figure 16: Wood roof over concrete slab (shown at LACO No. 1186)

Figure 17: Roof vent housing (shown at LACO No. 1186)

Figure 18: Crawl space under first-floor slab (shown at LACO No. 1188)

Figure 19: Cracking and deterioration at the hyphen connecting LACO No. 1184 and 1185

Figure 20: Fallen ceiling, delamination of concrete slab and beams at the hyphen connecting LACO No. 1184 and 1185

C LACO No. 1185 (General Ward 40) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

General Ward 40 (LACO 1185)

Feasibility Study Cost Plan — General Ward 40 (LACO 1185)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 40 (LACO 1185)		14,924	487.07	7,269
SUB-TOTAL BUILDING CONSTRUCTION			14,924	487.07	7,269
S1	Sitework		5,000	88.80	444
	Premium for enhanced sustainable site features				116
SUB-TOTAL SITEWORK					560
TOTAL BUILDING AND SITEWORK					**7,829**
Escalation to Midpoint (Jul 2021)		11.7%			913
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			699
	Project Management Consultant Services	3.0%			283
	FF & E	5.8%			564
	Taxes and Indirect Fees	1.0%			103
	Building Permit and Other Agency Fees	1.5%			156
	Owner Contingency/Construction Contingency	25.0%			2,637
Recommended Budget					***13,184***

MGAC

Feasibility Study Cost Plan — General Ward 40 (LACO 1185) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	7,462		
Level 2	7,462		
Subtotal of Enclosed Areas	14,924		
Covered Areas			
Subtotal of Covered Areas at 50%	-		
TOTAL GROSS FLOOR AREA	**14,924**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		2	EA	0.000
Gross Area		14,924	SF	1.000
Enclosed Area		14,924	SF	1.000
Footprint Area		7,462	SF	0.500
Volume		231,322	CF	15.500
Gross Wall Area		10,300	SF	0.690
Finished Wall Area		10,300	SF	0.690
Windows or Glazing	27%	2,800	SF	0.188
Roof Area - Flat		7,462	SF	0.500
Roof Area - Total		7,462	SF	0.500
Interior Partitions		530	LF	0.036
Finished Area		14,924	SF	1.000

MGAC

Feasibility Study Cost Plan — General Ward 40 (LACO 1185) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	14,924 SF	
A10	Foundations		3%	13.71	205
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	13.71	205
B10	Superstructure		13%	63.93	954
B20	Exterior Enclosure		8%	37.10	554
B30	Roofing		3%	12.25	183
B	Shell		23%	113.28	1,691
C10	Interior Construction		3%	14.08	210
C20	Stairways		0%	2.01	30
C30	Interior Finishes		10%	48.08	717
C	Interiors		13%	64.17	958
D10	Conveying Systems		1%	6.70	100
D20	Plumbing Systems		4%	20.70	309
D30	Heating, Ventilation & Air Cond.		10%	50.23	750
D40	Fire Protection		1%	7.00	104
D50	Elect'l Lighting, Power & Comm.		17%	82.83	1,236
D	Services		34%	167.46	2,499
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	10.21	152
E	Equipment & Furnishings		2%	10.21	152
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	12.57	188
F	Special Construction & Demolition		3%	12.57	188
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	381.40	5,692
Z10	Design Contingency	10.00%	8%	38.14	569
Z11	General Requirements	4.00%	3%	16.78	250
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	436.32	6,512
Z21	General Conditions	6.00%	5%	26.18	391
Z22	Bonds & Insurance	1.50%	1%	6.94	104
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	17.60	263
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	487.05	7,269
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	487.07	7,269

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				114,620
Foundation upgrade	7,462	SF	10.00	74,620
New elevator pit	1	LS	40,000.00	40,000
A1030 Slab On Grade				90,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	3,000	SF	30.00	90,000
Remove/replace ramp including railings				*site*
				204,620
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				804,840
Strengthen connections between floors and lateral elements	7,462	SF	10.00	74,620
Install new moment frames at the building perimeter	14,924	SF	30.00	447,720
Elevator corewalls	1,300	SF	75.00	97,500
Patch/repair damaged suspended slab, allow 50%	3,700	SF	50.00	185,000
Lightweight concrete topping, 1-1/2"				*n/a*
B1020 Roof Construction				149,240
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	7,462	SF	20.00	149,240
				954,080

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				222,480
Patch, repair plaster exterior walls, allow 40%	4,120	SF	14.00	57,680
Painting to exterior walls	10,300	SF	3.00	30,900
Loose fill insulation				*n/a*
Plaster and repaint interior face of exterior walls	10,300	SF	13.00	133,900
B2020 Exterior Windows				319,200
Strip and remove rust, retrofit existing wood framed windows, replace hardware, install new high performance glazing	2,240	SF	110.00	246,400
New windows similar kind (high performance glazing), allow 20%	560	SF	130.00	72,800
B2030 Exterior Doors				12,000
New exterior doors	4	EA	3,000.00	12,000
				553,680
B30 Roofing				
B3010 Roof Coverings				182,819
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	7,462	SF	24.50	182,819
				182,819
C10 Interior Construction				
C1010 Partitions				84,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	2,100	SF	40.00	84,000
C1020 Interior Doors				34,500
New wood doors including frames and hardware	15	EA	2,300.00	34,500

	Quantity	Unit	Rate	Total
C1030 Fittings				91,696
Toilet partitions and accessories	16	EA	2,000.00	32,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	14,924	SF	4.00	59,696
				210,196
C20 Stairways				
C2010 Stair Construction				20,000
Repair/repaint existing stairs and railing	2	EA	10,000.00	20,000
C2020 Stair Finishes				10,000
New stair finishes	2	EA	5,000.00	10,000
				30,000
C30 Interior Finishes				
C3010 Wall Finishes				78,290
Patch/repair wall plaster, allow 30%	3,000	SF	14.00	42,000
Painting to interior partitions	10,600	SF	1.25	13,250
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
C3020 Floor Finishes				116,865
Patch/repair existing floor finish including base, allow 75%	11,224	SF	10.00	112,240
Existing to remain, allow for cleaning, allow 25%	3,700	SF	1.25	4,625
C3030 Ceiling Finishes				522,340
New gypsum plaster ceiling on wood lathe	14,924	SF	35.00	522,340
				717,495

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
D1010 Elevators & Lifts				100,000
Passenger elevator, 2 stops	1	EA	100,000.00	100,000
				100,000
D20 Plumbing Systems				
D2010 Plumbing Fixtures				48,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	24	EA	2,000.00	48,000
D2020 Domestic Water Distribution				84,500
Domestic service pipework				
Hose bibs, 3/4" (allowance)	2	EA	2,500.00	5,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	24	EA	3,000.00	72,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				116,772
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	14,924	SF	2.00	29,848
Condensate drainage pipework, fittings, < = 1-1/2", insulated	14,924	SF	1.00	14,924
Waste, vent, fittings, < = 6"	24	EA	3,000.00	72,000
D2040 Rain Water Drainage				44,772
Surface water drainage				
Roof & overflow drains, < = 6"	14,924	SF	3.00	44,772

	Quantity	Unit	Rate	Total
D2090 Other Plumbing Systems				14,924
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	14,924.00	14,924
				308,968
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				162,403
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	750	mbth	27.50	20,625
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	14,924	SF	1.50	22,386
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	14,924	SF	8.00	119,392
D3040 Distribution Systems				339,055
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	18,655	LB	12.00	223,860
Dampers	1	LS	22,386.00	22,386
Insulation	13,991	SF	4.50	62,961
Diffusers, registers and grilles	14,924	SF	2.00	29,848
D3050 Terminal & Package Units				154,924
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	15	EA	1,000.00	14,924
D3060 Controls and Instrumentation				67,158
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	14,924	SF	4.50	67,158

	Quantity	Unit	Rate	Total
D3070 Systems Testing & Balancing				22,386
Test and balance air systems	14,924	SF	1.50	22,386
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				749,676
D40 Fire Protection				
D4010 Sprinklers				104,468
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	14,924	SF	7.00	104,468
				104,468
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				303,359
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,200	AM	65.00	78,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels	20	KW	5,000.00	100,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	14,924	SF	3.50	52,234

	Quantity	Unit	Rate	Total
D5020 Lighting & Branch Wiring				596,960
User convenience power				
Panel board breakers, 120 V circuits	14,924	SF	2.00	29,848
Receptacles, including conduit and cable	14,924	SF	5.50	82,082
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	14,924	SF	27.50	410,410
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	14,924	SF	5.00	74,620
D5030 Communications & Security				208,936
Telephone and communications				
Telephone/data - including conduit & cable	14,924	SF	6.50	97,006
WAP	14,924	SF	1.00	14,924
DAS - Emergency response & cellular	14,924	SF	4.00	59,696
Cable tray/wire-way/j-hooks	14,924	SF	1.00	14,924
Audiovisual rough-in	14,924	SF	1.50	22,386
D5090 Other Electrical Systems				126,854
Fire alarm systems	14,924	SF	4.50	67,158
Security - perimeter access control & CCTV surveillance	14,924	SF	4.00	59,696
				1,236,109

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				152,400
Cabinets, countertops shelving and millwork	100	LF	1,000.00	100,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	2,800	SF	15.00	42,000

	Quantity	Unit	Rate	Total
Entrance mat	1	LS	5,000.00	5,000
				152,400
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				75,614
Selective demolition				
Exterior window	560	SF	5.00	2,800
Doors	4	EA	150.00	600
Built-up roofing including roof sheathing	7,462	SF	2.00	14,924
Demo/remove 75% of existing partitions	6,400	SF	3.00	19,200
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	14,924	SF	2.50	37,310
Allow for clearing/removal of storage debris	12	MH	65.00	780
F2020 Hazardous Components Abatement				111,930
Hazmat abatement - allowance	14,924	SF	7.50	111,930
				187,544

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - General Ward 40 (LACO 1185)				
Gross Site Area	12,500	SF		
Building footprint	7,462	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	25.00	125,000
Premium for permeable paving	2,500	SF	13.00	32,500
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	5,000	SF	6.00	30,000
Site Utilities	5,000	SF	25.00	125,000
Alternate Cost Before Markups				**347,500**
Z10 Design Contingency	10.00%			34,750
Z11 General Requirements	4.00%			15,290
Z21 General Conditions	6.00%			23,852
Z22 Bonds & Insurance	1.50%			6,321
Z23 Contractor's Overhead, Profit & Fee	3.75%			16,039
Z30 See Overall Summary for Escalation	0.00%			
				443,753

D LACO No. 1185 (General Ward 40) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
General Ward 40 #1185

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the General Ward 40 (LACO #1185) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for General Ward 40 #1185 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for General Ward 40 (LACO #1185), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or

		alternative standards under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction*

		system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present, and to make recommendations for abatement, and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior*

		spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building.

		Refer to the recommendations for landscape maintenance above.
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIDOIC MAINTENANCE

PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Front elevations windows covered in plywood	
2	Rear elevation	
3	Rear entry door and windows	

E LACO No. 1185 (General Ward 40) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

General Ward 40 (LACO 1185)

MGAC

Mothballing Cost Plan — General Ward 40 (LACO 1185)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 40 (LACO 1185)		14,924	23.45	350
TOTAL BUILDING CONSTRUCTION			14,924	23.45	350
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**350**
Escalation to Midpoint (Jul 2021)		11.7%			41
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			16
	Project Management Consultant Services	2.0%			8
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			4
	Building Permit and Other Agency Fees	1.5%			6
	Owner Contingency/Construction Contingency	10.0%			43
Recommended Budget					***468***

MGAC

Mothballing Cost Plan — General Ward 40 (LACO 1185)

Item Description	Quantity	Unit	Rate	Total
1.) General Ward 40 (LACO 1185)				
No of floors	***2***	***EA***		
Gross Floor Area	***14,924***	***SF***		
Gross Wall Area	***10,300***	***SF***		
Roof Area	***7,462***	***SF***		
Windows Area	***2,800***	***SF***		
Gross Site Area	***12,500***	***SF***		
Building footprint	***7,462***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	14,924	SF	1.50	22,386
Repaint exterior walls	10,300	SF	2.00	20,600
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	2,800	SF	25.00	70,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	10,300	SF	0.10	1,030
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	7,462	SF	15.00	111,930
Termites, ants, rodents etc - inspection and allowance for treatment	14,924	SF	0.25	3,731
Install smoke & fire detectors including wiring	14,924	SF	1.00	14,924
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	*2,000*
Shut off valves/capped utilities				*n/a*
Fire extinguishers	5	EA	275.00	1,375
Remove debris and broom clean	14,924	SF	0.75	11,193
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**272,369**
Z10 Design Contingency	15.00%			40,855
Z11 General Requirements	3.00%			9,397
Z21 General Conditions	3.00%			9,679
Z22 Bonds & Insurance	1.50%			4,984
Z23 Contractor's Overhead, Profit & Fee	3.75%			12,648
				349,932

Feasibility Study Reports for LACO No. 1186 (General Ward 50)

Primary Contributor

ESA

A LACO No. 1186 (General Ward 50) – Architectural Assessment Report

General Ward 50 **(LACO 1186)**

14,924 s.f.

Primary Contributor to Historic District

Building Description

One of five nearly identical buildings, General Ward 50 (LACO No. 1186) is located on the west side of Erikson Avenue and is centrally in row of four General Ward buildings that are sited northwest of the intersection of Erickson Avenue and Bonita Street. Reflecting a stripped Classical Revival style, General Ward 50 is two-stories in height with a rectangular plan and a symmetrical east-facing façade. The building sits on a concrete foundation and has reinforced concrete walls painted with textured stucco. The flat roof is surmounted by a flat, monitor roof projection wrapped in a continuous blind arcade divides the east (primary) and west (rear) elevations into two bays, each bay containing two groups of four windows on each level. The blind arcade defines ten bays on the north and south elevations. Fenestration on these elevations is mostly single windows, two per bay. Windows are primarily wood-framed, one-over-one, double-hung sash topped by hopper type transoms. One-story hyphens connect the west end of the building to General Ward 40 to the north and General Ward 60 to the south and to the Dining Room/Staff /Kitchen/Commissary complex. Entrances are located on the north, south, and west elevations and in the hyphens and are accessed by concrete ramps edged by pipe railings. Both original, single and double wood doors and metal replacement doors are present. The property is in deteriorated condition and its doors and windows have been boarded over with plywood.[1]

Statement of Significance

The significance of LACO No. 1186 was described on a California State Department of Parks and Recreation (DPR) inventory from prepared by ESA in 2018, as follows:

> General Ward 50 (LACO No. 1186) was constructed in circa 1915 to house patients of the Poor Farm. It was converted into a pharmacy building in the 1930s, then office and storage space until circa the 1980s and 1990s, when it was abandoned along with much of the rest of the South Campus. ESA evaluated LACO No. 1186 under the following historical themes: Development of the Los Angeles County Poor Farm and Rancho Los Amigos (1888-1952). Based upon its date of construction and building type, LACO No. 1186 appears significant for its association with the Development of Rancho Los Amigos (1907-1932) era. LACO No. 1186 retains sufficient integrity to convey its original use as living quarters for patients of the Poor Farm. Though degraded, it is still intact and, in its present condition, retains integrity of location, setting, design materials, workmanship, feeling, and association. LACO No. 1186 retains sufficient integrity to convey its historical associations

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 201 (LACO No. 1186),* prepared for the County of Los Angeles June 2, 2008.

with the transition of the property from a poor farm to long-term care facility. Therefore, ESA recommends that the eligibility of LACO No. 1186 remain unchanged and that it continues to be considered a contributor to the District. ESA recommends that LACO No. 1186 retain its existing NRHP status code of 2D2, noting it as a contributor to the District.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** Building has a built-up roof. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters – are in need of repair or replacement.	• **7,400 s.f.**
• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **10,300 s.f.**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, General Ward 50 (LACO No. 1186),* prepared for the County of Los Angeles January 8, 2018.

• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **3 exterior doors**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **56- 3'x8' wood windows** • **17- 8'x10' window assemblies**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage of the flooring was observed as well as visible standing water on flooring materials.	• **14,924 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Some have been fire damaged.	• **10,300 s.f**
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, which have been severely damaged.	• **14, 923 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

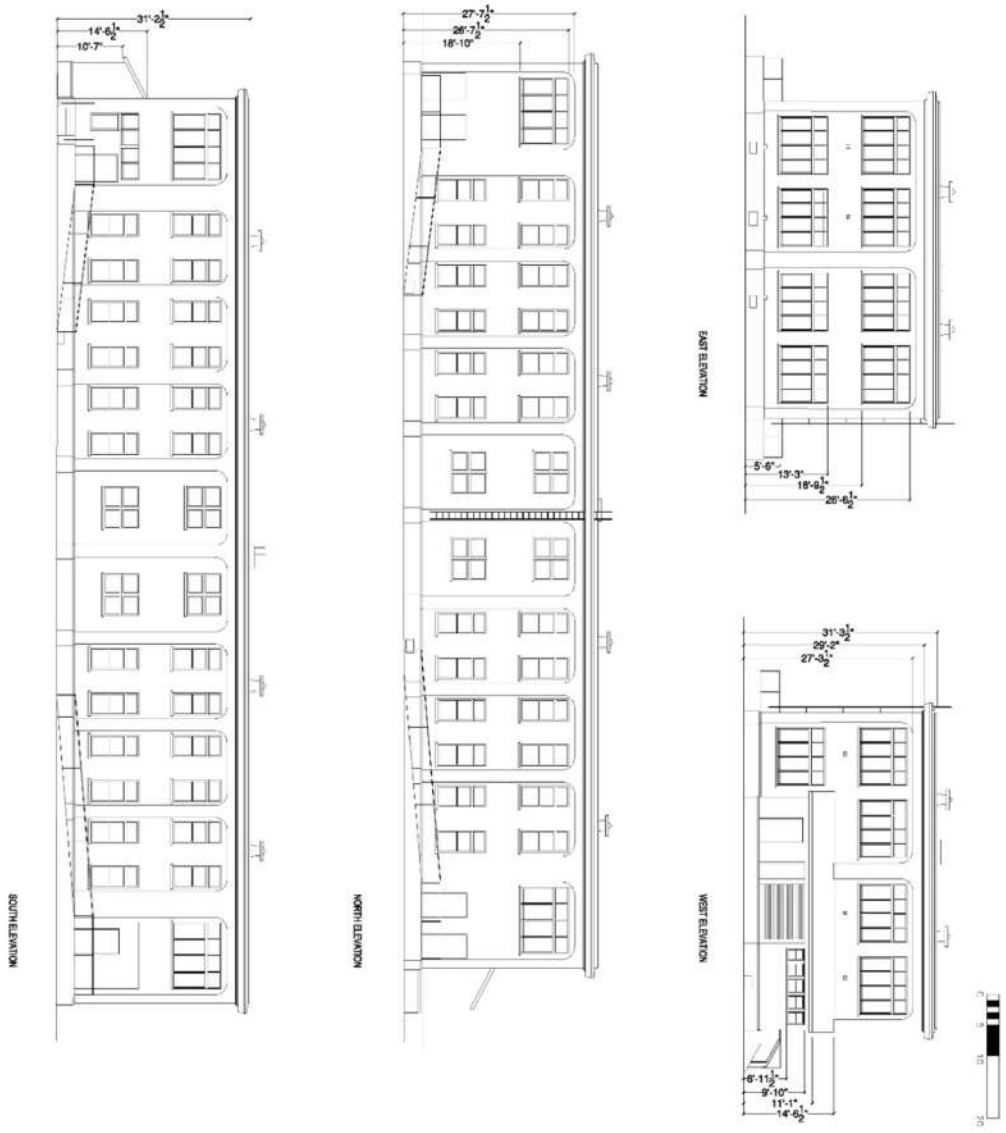
• **Roofing** – Replace entire built-up roof with a single ply, waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **7,400 s.f.**
• **Exterior walls**- Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage to interior faces.	• **10,300 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace, in-kind.	• **56- 3'x8' wood windows** • **17- 8'x10' window assemblies. Assume 20% replace in kind.**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building.	• **5,000 s.f. courtyard**.

Interior Spaces

It is assumed that this 14,924 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted in order to accommodate building features.

• **Flooring** – Repair approximately 25% of concrete floor.	• **14,924 s.f.** • **assume 75% repair**
• **Walls –** Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. Encapsulate Hollow Clay tile walls with 4' 16 ga. Metal studs and gyp. Bd. each side	• **10,300 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout.	• **14, 924 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 lf.**
• **Lighting –** Provide new high-efficiency LED lighting and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **1 restroom core per floor- 8 fixtures plus 4 sinks.**
• **Elevator –** Provide new 3,000 lb. elevator.	• **(1) 3,000 lb. elevator**
• **Electrical** – Provide new 1200 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	

GENERAL
WARDS 30-70 -
SIMILAR

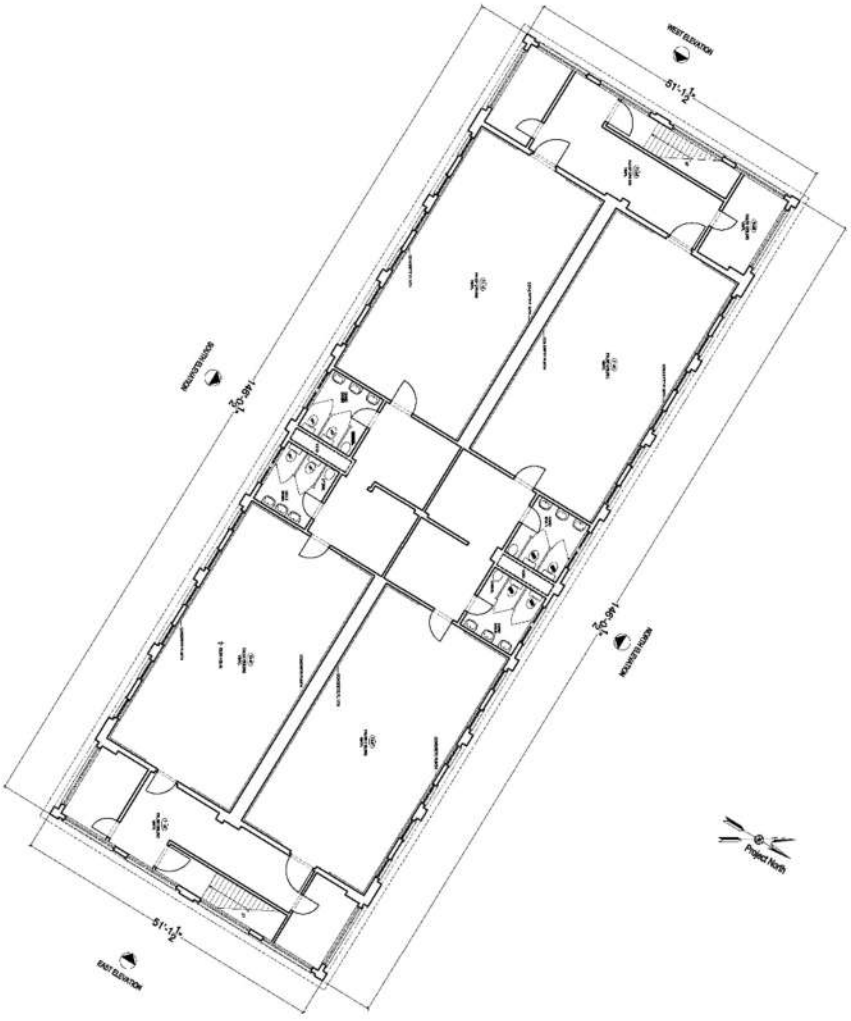


SOURCE: Mollenhaur Group

March 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	General Ward Building 70 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-H

GENERAL
WARDS 30-70 -
SIMILAR

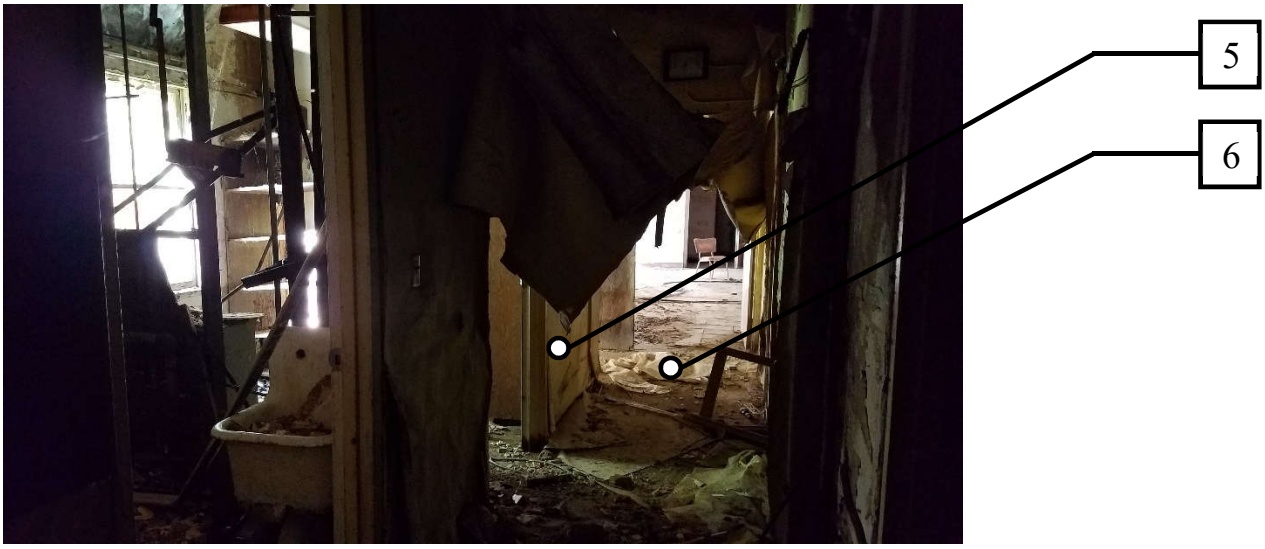


SOURCE: Mollenhaur Group

March 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	General Ward Building 70 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-H

East Elevation



Building Interior

1. Pain and patch plaster throughout.
2. Remove plywood, repair windows or replace “in kind”.
3. Remove and patch plumbing lines.
4. Provide new steel guardrail assembly.
5. Remove existing non-bearing walls.
6. Remove all hazardous material and debris.

B LACO No. 1186 (General Ward 50) – Structural Assessment Report

Structural Assessment: General Ward 50
(LACO NO. 1186)

Summary of Assessment

This building is one of a group of five General Ward buildings (LACO Nos. 1184, 1185, 1186, 1187, and 1188), which were constructed between 1913 and 1929. Each of these buildings is rectangular in plan, and the buildings are situated adjacent to each other with their long dimensions running from east to west. The two-story structures feature concrete floors and roof slabs. Each building is approximately 14,900 square feet. This report describes conditions and suggested upgrades representative of the entire set of buildings, with some information specific to LACO No. 1186.

The building appears to be in poor condition, with evidence of extensive fire damage and moisture damage, in addition to damage associated with the age of the building. Cracking and deterioration of building materials were noted throughout the structure. The expected seismic performance of this building, in its current condition, is poor. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this General Ward building. A detailed summary of these measures is included in the final section of this report. However, retrofitting older, nonductile concrete structures to meet a Life Safety Performance Level requires extensive inspection, materials testing, and strengthening.

Description of the Building

Each General Ward building is a two-story concrete structure that stands approximately 31 feet in height with concrete floors and roof slabs. Each building is approximately 14,000 to 15,000 square feet. The exterior walls are concrete frames with hollow clay tile infill. The walls are supported by a slab and stem wall, connected to the concrete foundation. There are columns along the exterior wall at every other window pier, extending from the foundation to the roof and connecting to a perimeter beam (Figure 2). Based on the few sheets of as-built drawings available for review, the columns have minimal reinforcement and would likely need to be strengthened. The first floor is a 4-inch concrete slab with beams, raised on a stem wall to create a crawl space. The majority of the slab is reinforced with 3/8-inch square rods at 6 inches on center each way. The second-floor slab and roof slab are of similar construction. Hollow clay tile infill was used at the raised slabs between the concrete beams (Figure 5). In General Ward 40 and 50 (LACO Nos. 1185 and 1186) and possibly others, wood roof framing has been constructed on top of the concrete slab.

The interior walls are typically made of hollow clay tile, occasionally two wythes thick. The cavity walls are open above, which provides some venting for the building (Figure 3)[1]. These vent openings in the slab occur in the first and second floors. In some General Ward buildings, additional partition walls were constructed of plaster over metal stud; these are not part of the original construction.

There is a concrete side ramp at each entrance to the building. There are two interior stair accesses to the second floor, located at the front and rear entrances to the building. The stairs appear to be steel with concrete pan.

This building, LACO No. 1186, is connected at both the first and second floors to LACO No. 1185 by an enclosed hyphen. An enclosed single-story hyphen connects the first floor of LACO No. 1186 to LACO No. 1187.

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

Condition Assessment

The following assessment discusses the existing conditions at all five General Ward buildings. The conditions are similar at each building, though the extent of damage varies somewhat. Only the first floor of each building was accessible for observation due to safety concerns. It is assumed that the second floor is in a state similar to the first.

Significant fire damage and water damage was noted in the General Ward buildings (Figures 6-9). In LACO No. 1184, 75% to 100% of the first floor has extensive fire damage. In LACO Nos. 1185 and 1186, standing water and/or water damage was observed (Figure 9). In LACO No. 1186, the entire ground floor appears to have standing water and/or water damage. Long term exposure to collected water on concrete is known to corrode reinforcement; the slabs may be weakened. LACO Nos. 1187 and 1188 appear to have the least damage but are still in poor condition. Evidence of fire was not apparent in the areas observed at those two buildings.

Deterioration of concrete and plaster is apparent on the interior and exterior walls and ceilings, leaving the hollow clay tile exposed (Figures 10-12). Many of the interior walls are cracked, especially in LACO No. 1184 (Figure 13). This cracking may be due to fires that have occurred in the buildings; heating of the wall material leads to expansion which can cause cracking.

Since the building has suffered high temperatures from fire, additional testing will be required to investigate the condition and capacity of the existing floors, roof, walls, and ceiling. Where concrete slabs were exposed to fire for a prolonged period of time, the slab has likely weakened and may require replacement (Figure 14). In many places throughout the General Ward buildings, the capacity of the structure is visibly compromised. Many of the walls have large sections missing, as seen in Figure 7. The hollow clay tile ceiling is considered too brittle to provide adequate strength, and it presents a potential falling hazard which could cause injury and block egress. In the hallway of LACO No. 1184, the hollow clay tiles infilling the second floor have split in half; the bottom halves have fallen to the ground (Figure 5). Delamination has occurred at many of the concrete beams; the rebar is visible and rusted (Figure 15).

Raised roofing over wood framing was constructed over the concrete roof slab (Figure 16). This was probably done to provide roof slope for drainage. There is a roof vent housing, which occurs in LACO No. 1186 and some of the other buildings (Figure 17). The presence or absence of lateral bracing in the roof vent structure could not be ascertained from the visual inspection.

The first-floor concrete slab and columns at the crawl space were observed in 2007 and appeared to be in good condition at the time (Figure 18). They are likely in decent condition but should be checked for deterioration and strengthened if needed.

Cracks were found on the hyphens connecting the buildings (Figure 19). Exposure to the elements and insufficient concrete cover has caused delamination, corrosion of the reinforcement and spalling of the concrete slab and beams at the hyphens (Figure 20). No seismic gap between the structures was observed, which may result in significant cracking and damage in the event of an earthquake, as each pair of connected buildings will move independently of each other.

Evaluation of Structural Performance

The information herein applies to the five General Ward buildings. The buildings have a good geometrical shape; no vertical discontinuities, and no mass irregularities. However, there is insufficient lateral resistance to forces that would be expected during a moderate earthquake. A new lateral system will need to be installed to provide proper resistance. While a steel braced frame system would generally be recommended for this type of structure, the braces could obstruct the view through the windows. Since the windows of these buildings are an important character-defining

feature of the property, even if the windows remain intact, an obstructed view would affect the historical significance and architectural appearance of the buildings. Therefore, the braced frame may not be appropriate for the retrofit of this set of buildings. A steel moment frame could be considered but would likely be too flexible compared to the existing building system, leading to significant damage in the case of a moderate earthquake. For these reasons, a concrete moment frame system is recommended to provide added lateral strength for the General Ward buildings. The concrete frames would be installed at the interior of the perimeter walls, with dowels connecting the new frame to the existing walls or columns.

The absence of seismic gaps between the buildings and their connecting structures may result in pounding during an earthquake. This is associated with a potential risk of falling hazards and partial collapse. Hollow clay tiles, pieces of concrete, and other items may fall during shaking, causing injury and blocking egress. Additionally, the inability for the structures to move independently could lead to damaged connections, compromising the gravity support system and the safety of anyone inside. Seismic joints should be installed between the hyphen and each building, to better allow the structures to move independently from one another.

Based on methods typical of the time of construction, it is assumed the columns and column-beam connections are not properly reinforced. Additionally, deterioration of concrete was found throughout all five buildings, and the ASCE 41 in-plane shear quick check indicates a possible deficiency in wall strength.

Some areas of the slab reinforcing steel meet the ASCE 41 minimum requirements. However, the beams and column bar splicing, ties, and stirrup spacing do not meet the minimum ASCE 41 requirements. The floor and roof diaphragms are not directly connected to the concrete and masonry walls, and the hollow clay tile infill (at diaphragms and walls) cannot be assumed to carry any lateral strength due to the fragile, brittle nature of the material. It is unknown if the wall reinforcement is doweled into the foundation, a connection that would be essential to earthquake design. Hollow clay tiles were used extensively throughout the building, but they are expected to perform very poorly. These tiles are very brittle and vulnerable to collapse. They would likely provide little or no strength for lateral resistance. They also present a significant potential safety threat as they are expected to crack, break, and fall in the case of an earthquake, fire, or even prolonged use, which could cause injuries and block egress.

Summary of Proposed Upgrades

The expected seismic performance of this building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Install new concrete moment frames at the building perimeter. This retrofit approach is expected to be the best option for preserving the architectural appearance and character-defining features of the building. The new frames should be doweled to the interior side of the existing perimeter walls and/or columns.
- Install new concrete shear walls or concrete moment frames in the building interior to reduce stresses on existing walls. Depending on where these frames or walls need to be installed following analysis, some window or door openings may be partially or fully obstructed. The new frames or shear walls are likely to compromise any large open areas inside the building.

- Concrete footings would need to be installed beneath any new frames and new shear walls; the walls and/or frames would need to be properly connected into the footings.
- Shotcrete existing exterior walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the concrete to properly connect the existing wall to the shotcrete.
- Add a form of protective enclosure throughout the building where hollow clay tile (HCT) infill occurs, to mitigate potential falling hazards. Approximately 75% to 100% of the slabs (ceilings) consist of HCT infill, which may present a falling hazard. Enclosures to mitigate potential falling hazards from the ceiling HCT infill could include nets, mesh, or new plaster coverings. If shotcrete is applied to exterior walls, it can be designed to provide similar protection to mitigate the potential falling hazards from the tiles at the exterior walls.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Approximately 75% to 100% of the building's interior walls consist of HCT. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other possible risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in the event of damage or collapse.

Diaphragm

- Strengthen connections between the concrete slab (diaphragm) and all existing lateral elements such as ties, drag beams, etc. Strengthen any existing connections between the diaphragm and the walls.
- Install new steel anchors between walls and diaphragm for out-of-plane forces. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace the deteriorated concrete. Patch and grout the reinforced concrete that appears to be spalling and cracking at the floor, roof, and walls. Some reinforcement appears severely corroded and may be structurally compromised; in these locations additional strengthening or remediation may be required.
- Apply moisture sealant as needed to the underside of the roof and floor to further protect reinforcement with inadequate concrete cover.
- Provide adequate roof drainage, to ensure minimal exposure to water at roof slab.
- Test and analyze all slabs; strengthen as needed.
- One or a combination of the following measures are suggested to mitigate spalling, cracking, and failure due to inadequate detailing of column-beam connections:
    - Shotcrete existing beams and columns to increase durability and strength. This could affect the appearance of some of the beamed ceilings identified as character-defining features on the buildings.
    - Surface coat the column-beam connection regions with fiber reinforced polymer (FRP) to minimize damage from rotation. This could affect the appearance of some of the beamed ceilings listed as character-defining features.
- Provide adequate lateral support for roof vent housing. This could be accomplished by either steel bracing or increasing the shear strength of the walls.
- Provide a seismic joint at the hyphens to mitigate the risk of pounding during an earthquake and possible falling hazards or egress obstruction, both of which could present a life-safety risk. The gap width at the joint

should be sized following analysis but would likely not exceed three inches. A joint should be installed at each end of each hyphen.

- Analyze the existing strength of structural elements exposed to fire. Replace any elements that have significant loss of strength due to high temperatures. It is expected that roughly 50% to 100% of all structural elements will need strengthening or replacement.
- Encapsulate all hollow clay tile slabs, ceilings, and walls as described above.
- Additional bracing of the concrete parapets listed as a character-defining feature may also be required. This could likely be done on the interior side of the parapets only. Anchors would need to be drilled and installed into the existing concrete. The appearance of the interior elevation of the parapets would be affected; however, the exterior character-defining visual appearance would be maintained.

Figure 1: East Elevation, LACO Nos. 1184 (right) through 1186 (left).

Figure 2: Exterior Elevation (shown at LACO No. 1188)

Figure 3: Interior cavity wall (shown at LACO No. 1184)

Figure 4: Connecting hyphen between LACO No. 1184 and 1185

Figure 5: Broken hollow clay tile infill at second-floor slab; spalled concrete and exposed rebar at second-floor beams (shown at LACO No. 1184)

Figure 6: Fire damaged walls (shown at LACO No. 1184)

Figure 7: Fire damage at LACO No. 1186

Figure 8: Fire damage to underside of stair (shown at LACO No. 1184)

Figure 9: Standing water on interior slab (shown at LACO No. 1185)

Figure 10: Exterior wall condition (shown at LACO No. 1186)

Figure 11: Exterior wall condition with exposed hollow clay tile (shown at LACO No. 1186)

Figure 12: Deteriorated plaster ceiling and exposed hollow clay tile (shown at LACO No. 1186)

Figure 13: Diagonal cracks in an interior wall (shown at LACO No. 1184)

Figure 14: Roof slab exposed to fire (shown at LACO No. 1184)

Figure 15: Delamination of concrete beam and exposed rebar (shown at LACO No. 1186)

Figure 16: Wood roof over concrete slab (shown at LACO No. 1186)

Figure 17: Roof vent housing (shown at LACO No. 1186)

Figure 18: Crawl space under first-floor slab (shown at LACO No. 1188)

Figure 19: Cracking and deterioration at the hyphen connecting LACO No. 1184 and 1185

Figure 20: Fallen ceiling, delamination of concrete slab and beams at the hyphen connecting LACO No. 1184 and 1185

C LACO No. 1186 (General Ward 50) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

General Ward 50 (LACO 1186)

Feasibility Study Cost Plan — General Ward 50 (LACO 1186)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 50 (LACO 1186)		14,924	487.07	7,269
SUB-TOTAL BUILDING CONSTRUCTION			14,924	487.07	7,269
S1	Sitework		5,000	88.80	444
	Premium for enhanced sustainable site features				116
SUB-TOTAL SITEWORK					560
TOTAL BUILDING AND SITEWORK					**7,829**
Escalation to Midpoint (Jul 2021)		11.7%			913
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			699
	Project Management Consultant Services	3.0%			283
	FF & E	5.8%			564
	Taxes and Indirect Fees	1.0%			103
	Building Permit and Other Agency Fees	1.5%			156
	Owner Contingency/Construction Contingency	25.0%			2,637
Recommended Budget					***13,184***

MGAC

Feasibility Study Cost Plan — General Ward 50 (LACO 1186) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	7,462		
Level 2	7,462		
Subtotal of Enclosed Areas	14,924		
Covered Areas			
Subtotal of Covered Areas at 50%	-		
TOTAL GROSS FLOOR AREA	**14,924**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		2	EA	0.000
Gross Area		14,924	SF	1.000
Enclosed Area		14,924	SF	1.000
Footprint Area		7,462	SF	0.500
Volume		231,322	CF	15.500
Gross Wall Area		10,300	SF	0.690
Finished Wall Area		10,300	SF	0.690
Windows or Glazing	27%	2,800	SF	0.188
Roof Area - Flat		7,462	SF	0.500
Roof Area - Total		7,462	SF	0.500
Interior Partitions		530	LF	0.036
Finished Area		14,924	SF	1.000

MGAC

Feasibility Study Cost Plan — General Ward 50 (LACO 1186) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	14,924 SF	
A10	Foundations		3%	13.71	205
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	13.71	205
B10	Superstructure		13%	63.93	954
B20	Exterior Enclosure		8%	37.10	554
B30	Roofing		3%	12.25	183
B	Shell		23%	113.28	1,691
C10	Interior Construction		3%	14.08	210
C20	Stairways		0%	2.01	30
C30	Interior Finishes		10%	48.08	717
C	Interiors		13%	64.17	958
D10	Conveying Systems		1%	6.70	100
D20	Plumbing Systems		4%	20.70	309
D30	Heating, Ventilation & Air Cond.		10%	50.23	750
D40	Fire Protection		1%	7.00	104
D50	Elect'l Lighting, Power & Comm.		17%	82.83	1,236
D	Services		34%	167.46	2,499
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	10.21	152
E	Equipment & Furnishings		2%	10.21	152
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	12.57	188
F	Special Construction & Demolition		3%	12.57	188
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	381.40	5,692
Z10	Design Contingency	10.00%	8%	38.14	569
Z11	General Requirements	4.00%	3%	16.78	250
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	436.32	6,512
Z21	General Conditions	6.00%	5%	26.18	391
Z22	Bonds & Insurance	1.50%	1%	6.94	104
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	17.60	263
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	487.05	7,269
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	487.07	7,269

MGAC

Feasibility Study Cost Plan — General Ward 50 (LACO 1186)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				114,620
Foundation upgrade	7,462	SF	10.00	74,620
New elevator pit	1	LS	40,000.00	40,000
A1030 Slab On Grade				90,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	3,000	SF	30.00	90,000
Remove replace ramp including railings				*site*
				204,620
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				804,840
Strengthen connections between floors and lateral elements	7,462	SF	10.00	74,620
Install new moment frames at the building perimeter	14,924	SF	30.00	447,720
Elevator corewalls	1,300	SF	75.00	97,500
Patch/repair damaged suspended slab, allow 50%	3,700	SF	50.00	185,000
Lightweight concrete topping, 1 1/2"				*n/a*
B1020 Roof Construction				149,240
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	7,462	SF	20.00	149,240
				954,080

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				222,480
Patch, repair plaster exterior walls, allow 40%	4,120	SF	14.00	57,680
Painting to exterior walls	10,300	SF	3.00	30,900
Loose fill insulation				*n/a*
Plaster and repaint interior face of exterior walls	10,300	SF	13.00	133,900
B2020 Exterior Windows				319,200
Strip and remove rust, retrofit existing wood framed windows, replace hardware, install new high performance glazing	2,240	SF	110.00	246,400
New windows similar kind (high performance glazing), allow 20%	560	SF	130.00	72,800
B2030 Exterior Doors				12,000
New exterior doors	4	EA	3,000.00	12,000
				553,680
B30 Roofing				
B3010 Roof Coverings				182,819
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	7,462	SF	24.50	182,819
B3020 Roof Openings				
				182,819
C10 Interior Construction				
C1010 Partitions				84,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	2,100	SF	40.00	84,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				34,500
New wood doors including frames and hardware	15	EA	2,300.00	34,500
C1030 Fittings				91,696
Toilet partitions and accessories	16	EA	2,000.00	32,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	14,924	SF	4.00	59,696
				210,196
C20 Stairways				
C2010 Stair Construction				20,000
Repair/repaint existing stairs and railing	2	EA	10,000.00	20,000
C2020 Stair Finishes				10,000
New stair finishes	2	EA	5,000.00	10,000
				30,000
C30 Interior Finishes				
C3010 Wall Finishes				78,290
Patch/repair wall plaster, allow 30%	3,000	SF	14.00	42,000
Painting to interior partitions	10,600	SF	1.25	13,250
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
C3020 Floor Finishes				116,865
Patch/repair existing floor finish including base, allow 75%	11,224	SF	10.00	112,240
Existing to remain, allow for cleaning, allow 25%	3,700	SF	1.25	4,625
C3030 Ceiling Finishes				522,340
New gypsum plaster ceiling on wood lathe	14,924	SF	35.00	522,340
				717,495

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
D1010 Elevators & Lifts				100,000
Passenger elevator, 2 stops	1	EA	100,000.00	100,000
				100,000
D20 Plumbing Systems				
D2010 Plumbing Fixtures				48,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	24	EA	2,000.00	48,000
D2020 Domestic Water Distribution				84,500
Domestic service pipework				
Hose bibs, 3/4" (allowance)	2	EA	2,500.00	5,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	24	EA	3,000.00	72,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				116,772
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	14,924	SF	2.00	29,848
Condensate drainage pipework, fittings, < = 1-1/2", insulated	14,924	SF	1.00	14,924
Waste, vent, fittings, < = 6"	24	EA	3,000.00	72,000
D2040 Rain Water Drainage				44,772
Surface water drainage				
Roof & overflow drains, < = 6"	14,924	SF	3.00	44,772

	Quantity	Unit	Rate	Total
D2090 Other Plumbing Systems				14,924
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	14,924.00	14,924
				308,968
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				162,403
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	750	mbth	27.50	20,625
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	14,924	SF	1.50	22,386
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	14,924	SF	8.00	119,392
D3040 Distribution Systems				339,055
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	18,655	LB	12.00	223,860
Dampers	1	LS	22,386.00	22,386
Insulation	13,991	SF	4.50	62,961
Diffusers, registers and grilles	14,924	SF	2.00	29,848
D3050 Terminal & Package Units				154,924
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	15	EA	1,000.00	14,924
D3060 Controls and Instrumentation				67,158
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	14,924	SF	4.50	67,158

	Quantity	Unit	Rate	Total
D3070 Systems Testing & Balancing				22,386
Test and balance air systems	14,924	SF	1.50	22,386
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				749,676
D40 Fire Protection				
D4010 Sprinklers				104,468
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	14,924	SF	7.00	104,468
				104,468
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				303,359
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,200	AM	65.00	78,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels	20	KW	5,000.00	100,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	14,924	SF	3.50	52,234

	Quantity	Unit	Rate	Total
D5020 Lighting & Branch Wiring				596,960
User convenience power				
Panel board breakers, 120 V circuits	14,924	SF	2.00	29,848
Receptacles, including conduit and cable	14,924	SF	5.50	82,082
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	14,924	SF	27.50	410,410
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	14,924	SF	5.00	74,620
D5030 Communications & Security				208,936
Telephone and communications				
Telephone/data - including conduit & cable	14,924	SF	6.50	97,006
WAP	14,924	SF	1.00	14,924
DAS - Emergency response & cellular	14,924	SF	4.00	59,696
Cable tray/wire-way/j-hooks	14,924	SF	1.00	14,924
Audiovisual rough-in	14,924	SF	1.50	22,386
D5090 Other Electrical Systems				126,854
Fire alarm systems	14,924	SF	4.50	67,158
Security - perimeter access control & CCTV surveillance	14,924	SF	4.00	59,696
				1,236,109

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				152,400
Cabinets, countertops shelving and millwork	100	LF	1,000.00	100,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	2,800	SF	15.00	42,000

	Quantity	Unit	Rate	Total
Entrance mat	1	LS	5,000.00	5,000
				152,400
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				75,614
Selective demolition				
Exterior window	560	SF	5.00	2,800
Doors	4	EA	150.00	600
Built-up roofing including roof sheathing	7,462	SF	2.00	14,924
Demo/remove 75% of existing partitions	6,400	SF	3.00	19,200
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	14,924	SF	2.50	37,310
Allow for clearing/removal of storage debris	12	MH	65.00	780
F2020 Hazardous Components Abatement				111,930
Hazmat abatement - allowance	14,924	SF	7.50	111,930
				187,544

Feasibility Study Cost Plan — General Ward 50 (LACO 1186)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - General Ward 50 (LACO 1186)				
Gross Site Area	12,500	SF		
Building footprint	7,462	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	25.00	125,000
Premium for permeable paving	2,500	SF	13.00	32,500
Remove replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	5,000	SF	6.00	30,000
Site Utilities	5,000	SF	25.00	125,000
Alternate Cost Before Markups				**347,500**
Z10 Design Contingency	10.00%			34,750
Z11 General Requirements	4.00%			15,290
Z21 General Conditions	6.00%			23,852
Z22 Bonds & Insurance	1.50%			6,321
Z23 Contractor's Overhead, Profit & Fee	3.75%			16,039
Z30 See Overall Summary for Escalation	0.00%			
				443,753

D LACO No. 1186 (General Ward 50) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
General Ward 50 #1186

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the General Ward 50 (LACO #1186) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for General Ward 50 #1186 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for General Ward 50 (LACO #1186), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction system. Provide rain leader extensions to*

		take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior*

		spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building.

		Refer to the recommendations for landscape maintenance above.
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIODIC MAINTENANCE

PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Rear elevations windows covered in plywood	
2	South/east elevation windows with plywood	
3	Site condition	

E LACO No. 1186 (General Ward 50) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

General Ward 50 (LACO 1186)

MGAC

Mothballing Cost Plan — General Ward 50 (LACO 1186)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 50 (LACO 1186)		14,924	23.45	350
TOTAL BUILDING CONSTRUCTION			14,924	23.45	350
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**350**
Escalation to Midpoint (Jul 2021)		11.7%			41
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			16
	Project Management Consultant Services	2.0%			8
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			4
	Building Permit and Other Agency Fees	1.5%			6
	Owner Contingency/Construction Contingency	10.0%			43
Recommended Budget					***468***

MGAC

Mothballing Cost Plan — General Ward 50 (LACO 1186)

Item Description	Quantity	Unit	Rate	Total
1.) General Ward 50 (LACO 1186)				
No of floors	***2***	***EA***		
Gross Floor Area	***14,924***	***SF***		
Gross Wall Area	***10,300***	***SF***		
Roof Area	***7,462***	***SF***		
Windows Area	***2,800***	***SF***		
Gross Site Area	***12,500***	***SF***		
Building footprint	***7,462***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	14,924	SF	1.50	22,386
Repaint exterior walls	10,300	SF	2.00	20,600
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	2,800	SF	25.00	70,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	10,300	SF	0.10	1,030
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	7,462	SF	15.00	111,930
Termites, ants, rodents etc - inspection and allowance for treatment	14,924	SF	0.25	3,731
Install smoke & fire detectors including wiring	14,924	SF	1.00	14,924
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	5	EA	275.00	1,375
Remove debris and broom clean	14,924	SF	0.75	11,193
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**272,369**
Z10 Design Contingency	15.00%			40,855
Z11 General Requirements	3.00%			9,397
Z21 General Conditions	3.00%			9,679
Z22 Bonds & Insurance	1.50%			4,984
Z23 Contractor's Overhead, Profit & Fee	3.75%			12,648
				349,932

Feasibility Study Reports for LACO No. 1187 (General Ward 60)

Primary Contributor

ESA

A LACO No. 1187 (General Ward 60) – Architectural Assessment Report

General Ward 60 (LACO 1187)

14,500 s.f.

Primary Contributor to Historic District

Building Description

One of five nearly identical buildings, General Ward 60 (LACO No. 1187) is located on the west side of Erikson Avenue and is the southernmost in a row of four different General Ward buildings that are sited northwest of the intersection of Erickson Avenue and Bonita Street. One additional building is located south of Bonita Street. Reflecting a stripped Classical Revival style, General Ward 60 is two-stories in height with a rectangular plan and a symmetrical east-facing façade. The building sits on a concrete foundation and has reinforced concrete exterior walls with painted textured stucco. The flat roof is surmounted by a flat, monitor roof projection wrapped in a continuous linear band of metal louver vents. A continuous blind arcade divides the east (primary) and west (rear) elevations into two bays, each bay containing two groups of four windows on each level. The blind arcade defines ten bays on the north and south elevations. Fenestration on these elevations is mostly single windows, two per bay. Windows are primarily wood-framed, one-over-one, double-hung sash topped by hopper type transoms. A one-story hyphen connects the west end of the building to General Ward 50 to the north. Secondary entrances are located on the north, south, and west elevations and in hyphens and are accessed by concrete ramps edged by pipe railings. Both original, single and double wood doors and metal replacement doors are present. The property is in deteriorated condition and its doors and windows have been boarded over with plywood.[1]

Statement of Significance

The significance of LACO No. 1187 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> General Ward 60 (LACO No. 1187) was constructed in circa 1926 to house patients of the Poor Farm. ESA evaluated LACO No. 1187 under the following historical themes: Development of the Los Angeles County Poor Farm and Rancho Los Amigos (1888-1952). Based upon its date of construction and building type, LACO No. 1187 appears significant for its association with the Development of Rancho Los Amigos (1907-1932) era. LACO No. 1187 retains sufficient integrity to convey its original use as living quarters for patients of the Poor Farm. Though degraded, it is still intact and, in its present condition, retains integrity of location, setting, design materials, workmanship, feeling, and association. LACO No. 1187 retains sufficient integrity to convey its historical associations with the

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 201 (LACO No. 1187),* prepared for the County of Los Angeles June 2, 2008.

transition of the property from a poor farm to long-term care facility. Therefore, ESA recommends that the eligibility of LACO No. 1187 remain unchanged and that it continues to be considered a contributor to the District. ESA recommends that LACO No. 1187 retain its existing NRHP status code of 2D2, noting it as a contributor to the District.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** Building has a built-up roof. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters – are in need of repair or replacement.	• **7,400 s.f.**
• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **10,300 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, General Ward 60 (LACO No. 1187),* prepared for the County of Los Angeles January 8, 2018.

• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **3 exterior doors**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **56- 3'x8' wood windows** • **17- 8'x10' window assemblies56- 3'x6' wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage of the flooring was observed as well as visible standing water on flooring materials.	• **14,500 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Some have been fire damaged.	• **10,300 s.f.**
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, which have been severely damaged.	• **14,500 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

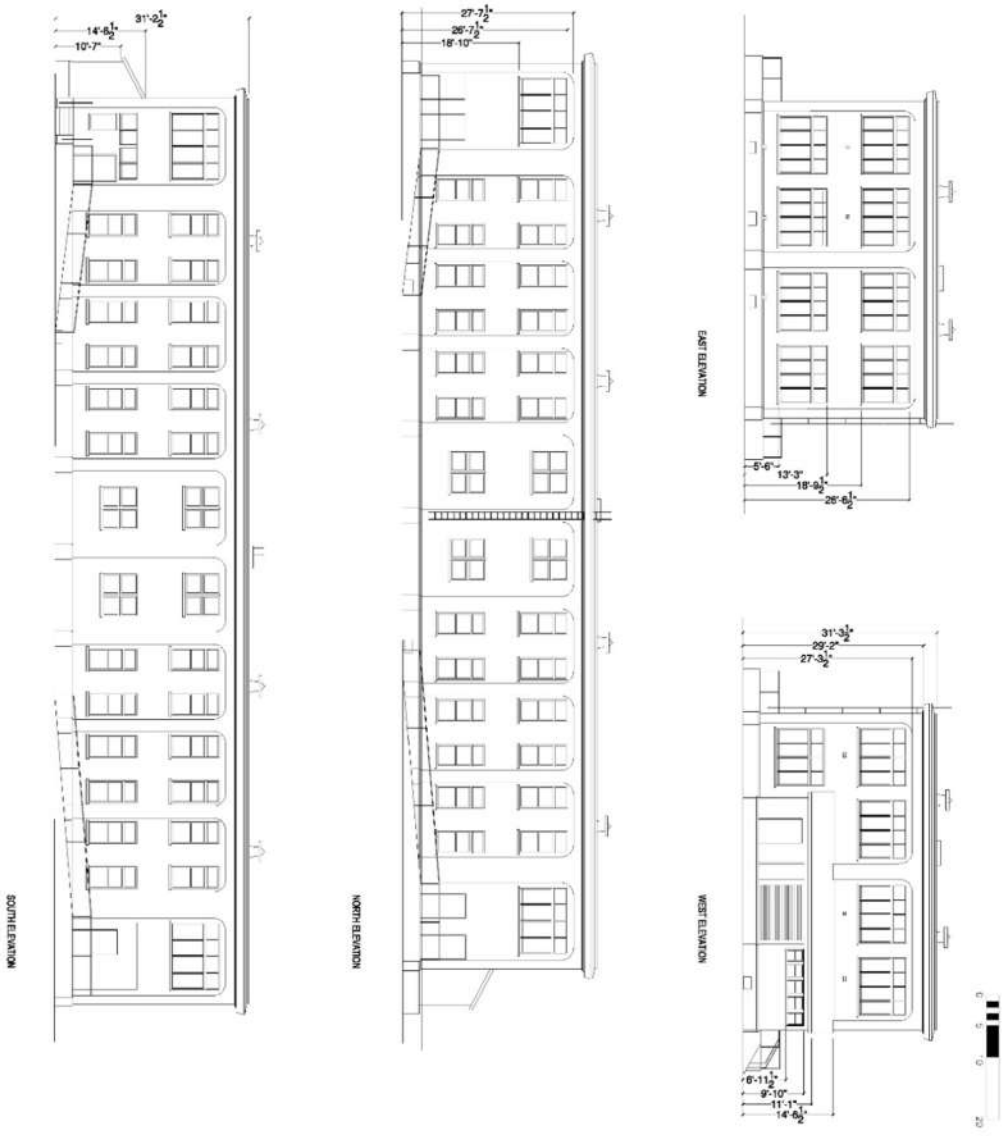
• **Roofing** – Replace entire built-up roof with a single ply, waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **7,400 s.f.**
• **Exterior walls**- Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage to interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace, in-kind.	• **56- 3'x8' wood windows** • **17- 8'x10' window assemblies** • **Assume 20% replace in kind.**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building.	• **5,000 s.f. courtyard.**

Interior Spaces

It is assumed that this 14,500 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted in order to accommodate building features.

• **Flooring** – Repair approximately 25% of concrete floor.	• **14,500 s.f. Assume 75% repair.**
• **Walls –** Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow Clay tile walls are to be encapsulated with 4" 16 ga. Metal studs and gyp bd. Each side.	• **10,300 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout.	• **14,500 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 s.f.**
• **Lighting –** Provide new high-efficiency LED lighting and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **1 restroom core per floor-8 fixtures total, 4 sinks total**
• **Elevator –** Provide new 3,000 lb. elevator.	• **(1) 3,000 lb. elevator**
• **Electrical** – Provide new 1200 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	

GENERAL
WARDS 30-70 -
SIMILAR

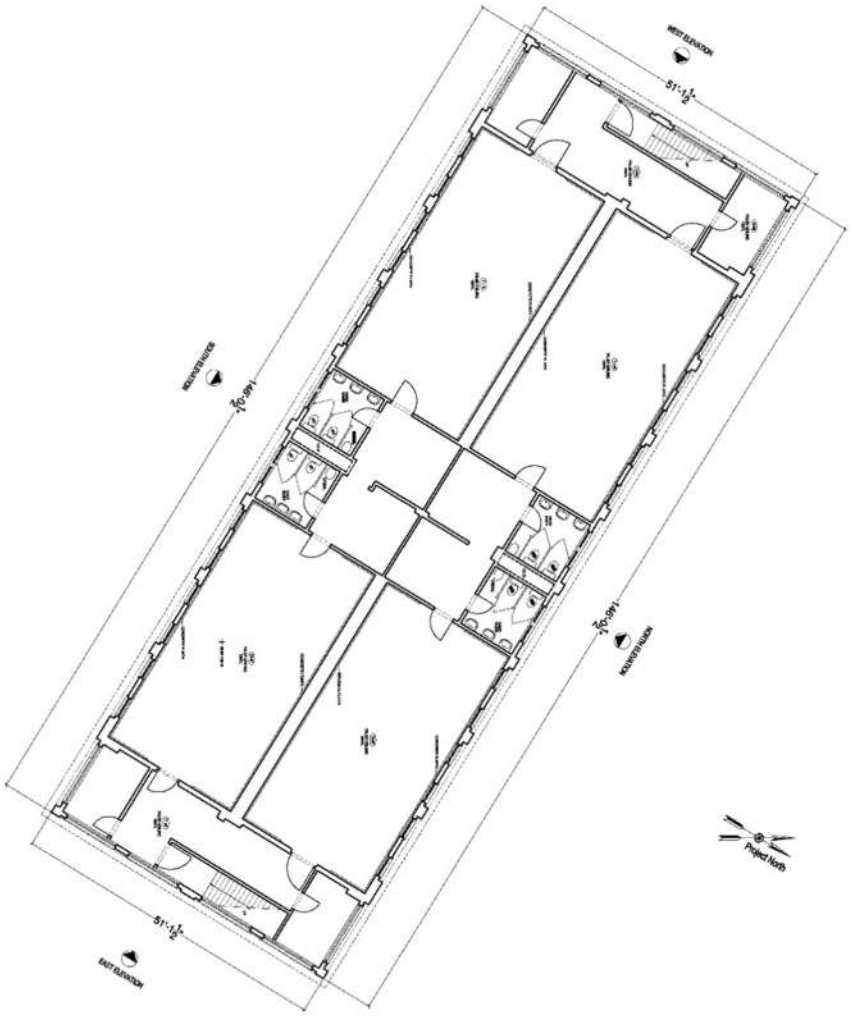


SOURCE: Mollenhaur Group

March 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	General Ward Building 70 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-H

GENERAL
WARDS 30-70 -
SIMILAR



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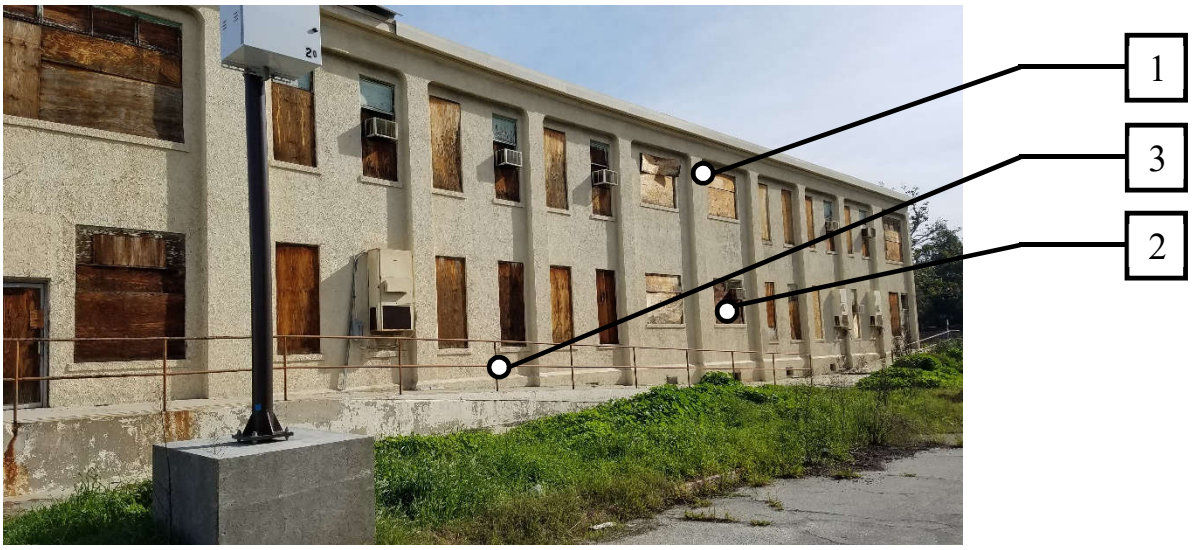
March 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	General Ward Building 70 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-H



South Elevation

Plaster and Window Conditions

1. Paint and patch plaster throughout.
2. Remove plywood, repair windows or replace “in kind”.
3. New entry door – replace “in kind”.
4. Remove existing non-bearing walls.
5. Remove all hazardous material and debris.

Interior

Damaged ceiling due to water intrusion.

1. Paint and patch plaster throughout.
2. Remove plywood, repair windows or replace “in kind”.
3. New entry door – replace “in kind.”
4. Remove existing non-bearing walls.
5. Remove all hazardous material and debris.

B LACO No. 1187 (General Ward 60) – Structural Assessment Report

Structural Assessment: General Ward 60
(LACO NO. 1187)

Summary of Assessment

This building is one of a group of five General Ward buildings (LACO Nos. 1184, 1185, 1186, 1187, and 1188), which were constructed between 1913 and 1929. Each of these buildings is rectangular in plan, and the buildings are situated adjacent to each other with their long dimensions running from east to west. The two-story structures feature concrete floors and roof slabs. Each building is approximately 14,500 square feet. This report describes conditions and suggested upgrades representative of the entire set of buildings, with some information specific to LACO No. 1187.

The building appears to be in poor condition. Cracking and deterioration of building materials were noted throughout the structure. The expected seismic performance of this building, in its current condition, is poor. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this General Ward building. A detailed summary of these measures is included in the final section of this report. However, retrofitting older, nonductile concrete structures to meet a Life Safety Performance Level requires extensive inspection, materials testing, and strengthening.

Description of the Building

Each General Ward building is a two-story concrete structure that stands approximately 31 feet in height with concrete floors and roof slabs. Each building is approximately 14,000 to 15,000 square feet. The exterior walls are concrete frames with hollow clay tile infill. The walls are supported by a slab and stem wall, connected to the concrete foundation. There are columns along the exterior wall at every other window pier, extending from the foundation to the roof and connecting to a perimeter beam (Figure 2). Based on the few sheets of as-built drawings available for review, the columns have minimal reinforcement and will likely need to be strengthened. The first floor is a 4-inch concrete slab with beams, raised on a stem wall to create a crawl space. The majority of the slab is reinforced with 3/8-inch square rods at 6 inches on center each way. The second-floor slab and roof slab are of similar construction. Hollow clay tile infill was used at the raised slabs between the concrete beams (Figure 5). In General Ward 40 and 50 (LACO Nos. 1185 and 1186) and possibly others, wood roof framing has been constructed on top of the concrete slab.

The interior walls are typically made of hollow clay tile, occasionally two wythes thick. The cavity walls (Figure 3)[1] are open above, which provides some venting for the building. These vent openings in the slab occur in the first and second floors. In some General Ward buildings, additional partition walls were constructed of plaster over metal stud; these are not part of the original construction.

There is a concrete side ramp at each entrance to the building. There are two interior stair accesses to the second floor, located at the front and rear entrances to the building. The stairs are solid concrete. An enclosed single-story hyphen connects LACO No. 1187 to LACO No. 1186 at the west end of the buildings.

Condition Assessment

The following assessment discusses the existing conditions at all five General Ward buildings. The conditions are similar at each building, though the extent of damage varies somewhat. Only the first floor of each building was accessible for observation due to safety concerns. It is assumed that the second floor is in a state similar to the first.

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

Significant fire damage and water damage was noted in the General Ward buildings (Figures 6-8). In LACO No. 1184, 75% to 100% of the first floor has extensive fire damage. In LACO Nos. 1185 and 1186, standing water and/or water damage was observed (Figure 8). In LACO No. 1186, the entire ground floor appears to have standing water and/or water damage. Long term exposure to collected water on concrete is known to corrode reinforcement; the slabs may be weakened. LACO Nos. 1187 and 1188 appear to have the least damage but are still in poor condition (Figure 9). Evidence of fire was not apparent in the areas observed at those two buildings.

Deterioration of concrete and plaster is apparent on the interior and exterior walls and ceilings, leaving the hollow clay tile exposed (Figures 10-12). Many of the interior walls are cracked or damaged, as seen in Figure 13.

If the building has suffered high temperatures from fire, additional testing will be required to investigate the condition and capacity of the existing floors, roof, walls, and ceiling. Where concrete slabs were exposed to fire for a prolonged period of time, the slab has likely weakened and may require replacement (Figure 14). In many places throughout the General Ward buildings, the capacity of the structure is visibly compromised. Many of the walls have large sections missing, as seen in Figure 7. The hollow clay tile ceiling is considered too brittle to provide adequate strength, and it presents a potential falling hazard which could cause injury and block egress. In the hallway of LACO No. 1184, the hollow clay tiles infilling the second floor have split in half; the bottom halves have fallen to the ground (Figure 5). Delamination has occurred at many of the concrete beams; the rebar is visible and rusted (Figure 15).

Raised roofing over wood framing was constructed over the concrete roof slab (Figure 16). This was probably done to provide roof slope for drainage. There is a roof vent housing, which occurs in LACO No. 1186 and some of the other buildings (Figure 17). The presence or absence of lateral bracing in the roof vent structure could not be ascertained from the visual inspection.

The first-floor concrete slab and columns at the crawl space were observed in 2007 and appeared to be in good condition at the time (Figure 18). They are likely in decent condition but should be checked for deterioration and strengthened if needed.

Cracks were found on the hyphens connecting the buildings (Figure 19). Exposure to the elements and insufficient concrete cover has caused delamination, corrosion of the reinforcement and spalling of the concrete slab and beams at the hyphens (Figure 20). No seismic gap between the structures was observed, which may result in significant cracking and damage in the event of an earthquake, as each pair of connected buildings will move independently of each other.

Evaluation of Structural Performance

The information herein applies to the five General Ward buildings. The buildings have a good geometrical shape, no vertical discontinuities, and no mass irregularities. However, there is insufficient lateral resistance to forces that would be expected during a moderate earthquake. A new lateral system will need to be installed to provide proper resistance. While a steel braced frame system would generally be recommended for this type of structure, the braces could obstruct the view through the windows. Since the windows of these buildings are an important character-defining feature of the property, even if the windows remain intact, an obstructed view would affect the historical significance and architectural appearance of the buildings. Therefore, the braced frame may not be appropriate for the retrofit of this set of buildings. A steel moment frame could be considered but would likely be too flexible compared to the existing building system, leading to significant damage in the case of a moderate earthquake. For these reasons, a concrete moment frame system is recommended to provide added lateral strength for the General Ward buildings. The concrete frames would be installed at the interior of the perimeter walls, with dowels connecting the new frame to the existing walls or columns.

The absence of seismic gaps between the buildings and their connecting structures may result in pounding during an earthquake. This is associated with a potential risk of falling hazards and partial collapse. Hollow clay tiles, pieces of concrete, and other items may fall during shaking, causing injury and blocking egress. Additionally, the inability for the structures to move independently could lead to damaged connections, compromising the gravity support system and the safety of anyone inside. Seismic joints should be installed between the hyphen and each building, to better allow the structures to move independently from one another.

Based on methods typical of the time of construction, it is assumed the columns and column-beam connections are not properly reinforced. Additionally, deterioration of concrete was found throughout all five buildings, and the ASCE 41 in-plane shear quick check indicates a possible deficiency in wall strength.

Some areas of the slab reinforcing steel meet the ASCE 41 minimum requirements. However, the beams and column bar splicing, ties, and stirrup spacing do not meet the minimum ASCE 41 requirements. The floor and roof diaphragms are not directly connected to the concrete and masonry walls, and the hollow clay tile infill (at diaphragms and walls) cannot be assumed to carry any lateral strength due to the fragile, brittle nature of the material. It is unknown if the wall reinforcement is doweled into the foundation, a connection that would be essential to earthquake design. Hollow clay tiles were used extensively throughout the building, but they are expected to perform very poorly. These tiles are very brittle and vulnerable to collapse. They would likely provide little or no strength for lateral resistance. They also present a significant potential safety threat as they are expected to crack, break, and fall in the case of an earthquake, fire, or even prolonged use, which could cause injuries and block egress.

Summary of Proposed Upgrades

The expected seismic performance of this building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Install new concrete moment frames at the building perimeter. This retrofit approach is expected to be the best option for preserving the architectural appearance and character-defining features of the building. The new frames should be doweled to the interior side of the existing perimeter walls and/or columns.
- Install new concrete shear walls or concrete moment frames in the building interior to reduce stresses on existing walls. Depending on where these frames or walls need to be installed following analysis, some window or door openings may be partially or fully obstructed. The new frames or shear walls are likely to compromise any large open areas inside the building.
- Concrete footings would need to be installed beneath any new frames and new shear walls; the walls and/or frames would need to be properly connected into the footings.
- Shotcrete existing exterior walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the concrete to properly connect the existing wall to the shotcrete.
- Add a form of protective enclosure throughout the building where hollow clay tile (HCT) infill occurs, to mitigate potential falling hazards. Approximately 75% to 100% of the slabs (ceilings) consist of HCT infill, which may present a falling hazard. Enclosures to mitigate potential falling hazards from the ceiling HCT

infill could include nets, mesh, or new plaster coverings. If shotcrete is applied to exterior walls, it can be designed to provide similar protection to mitigate the potential falling hazards from the tiles at the exterior walls.

- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Approximately 75% to 100% of the building's interior walls consist of HCT. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other possible risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in the event of damage or collapse.

Diaphragm

- Strengthen connections between the concrete slab (diaphragm) and all existing lateral elements such as ties, drag beams, etc. Strengthen any existing connections between the diaphragm and the walls.
- Install new steel anchors between walls and diaphragm for out-of-plane forces. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace the deteriorated concrete. Patch and grout the reinforced concrete that appears to be spalling and cracking at the floor, roof, and walls. Some reinforcement appears severely corroded and may be structurally compromised; in these locations additional strengthening or remediation may be required.
- Apply moisture sealant as needed to the underside of the roof and floor to further protect reinforcement with inadequate concrete cover.
- Provide adequate roof drainage, to ensure minimal exposure to water at roof slab.
- Test and analyze all slabs; strengthen as needed.
- One or a combination of the following measures are suggested to mitigate spalling, cracking, and failure due to inadequate detailing of column-beam connections:
    - Shotcrete existing beams and columns to increase durability and strength. This could affect the appearance of some of the beamed ceilings identified as character-defining features on the buildings.
    - Surface coat the column-beam connection regions with fiber reinforced polymer (FRP) to minimize damage from rotation. This could affect the appearance of some of the beamed ceilings listed as character-defining features.
- Provide adequate lateral support for roof vent housing. This could be accomplished by either steel bracing or increasing the shear strength of the walls.
- Provide a seismic joint at the hyphens to mitigate the risk of pounding during an earthquake and possible falling hazards or egress obstruction, both of which could present a life-safety risk. The gap width at the joint should be sized following analysis but would likely not exceed three inches. A joint should be installed at each end of each hyphen.
- Analyze the existing strength of structural elements exposed to fire. Replace any elements that have significant loss of strength due to high temperatures. It is expected that roughly 50% to 100% of all structural elements will need strengthening or replacement.
- Encapsulate all hollow clay tile slabs, ceilings, and walls as described above.
- Additional bracing of the concrete parapets listed as a character-defining feature may also be required. This could likely be done on the interior side of the parapets only. Anchors would need to be drilled and installed

into the existing concrete. The appearance of the interior elevation of the parapets would be affected; however, the exterior character-defining visual appearance would be maintained.

Figure 1: East Elevation, LACO Nos. 1184 (right) through 1186 (left).

Figure 2: North elevation of LACO No. 1187

Figure 3:Interior cavity wall at LACO No. 1187

Figure 4: Connecting hyphen between LACO No. 1184 and 1185

Figure 5:Broken hollow clay tile infill at second-floor slab; spalled concrete and exposed rebar at second-floor beams (shown at LACO No. 1184)

Figure 6: Fire damaged walls (shown at LACO No. 1184)

Figure 7: Fire damage at LACO No. 1186

Figure 8: Standing water on interior slab (shown at LACO No. 1185)

Figure 9: Interior condition at LACO No. 1187

Figure 10: Exterior wall condition (shown at LACO No. 1186)

Figure 11: Exterior wall condition with exposed hollow clay tile (shown at LACO No. 1186)

Figure 12: Deteriorated plaster ceiling and exposed hollow clay tile (shown at LACO No. 1187)

Figure 13: Interior wall damage (shown at LACO No. 1187)

Figure 14: Roof slab exposed to fire (shown at LACO No. 1184)

Figure 15: Delamination of concrete beam and exposed rebar (shown at LACO No. 1186)

Figure 16: Wood roof over concrete slab (shown at LACO No. 1186)

Figure 17: Roof vent housing (shown at LACO No. 1186)

Figure 18: Crawl space under first-floor slab (shown at LACO No. 1188)

Figure 19: Cracking and deterioration at the hyphen connecting LACO No. 1184 and 1185

Figure 20: Fallen ceiling, delamination of concrete slab and beams at the hyphen connecting LACO No. 1184 and 1185

C LACO No. 1187 (General Ward 60) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

General Ward 60 (LACO 1187)

Feasibility Study Cost Plan — General Ward 60 (LACO 1187)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 60 (LACO 1187)		14,500	492.76	7,145
SUB-TOTAL BUILDING CONSTRUCTION			14,500	492.76	7,145
S1	Sitework		5,000	88.80	444
	Premium for enhanced sustainable site features				114
SUB-TOTAL SITEWORK					558
TOTAL BUILDING AND SITEWORK					**7,703**
Escalation to Midpoint (Jul 2021)		11.7%			899
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			688
	Project Management Consultant Services	3.0%			279
	FF & E	5.8%			555
	Taxes and Indirect Fees	1.0%			101
	Building Permit and Other Agency Fees	1.5%			153
	Owner Contingency/Construction Contingency	25.0%			2,595
Recommended Budget					***12,973***

MGAC

Feasibility Study Cost Plan — General Ward 60 (LACO 1187) Areas

		SF			SF
Areas					
Enclosed Areas			Program Areas		
Level 1	7,250				
Level 2	7,250				
Subtotal of Enclosed Areas		14,500			
Covered Areas					
Subtotal of Covered Areas at 50%		-			
TOTAL GROSS FLOOR AREA		**14,500**			**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		2	EA	0.000
Gross Area		14,500	SF	1.000
Enclosed Area		14,500	SF	1.000
Footprint Area		7,250	SF	0.500
Volume		224,750	CF	15.500
Gross Wall Area		10,300	SF	0.710
Finished Wall Area		10,300	SF	0.710
Windows or Glazing	27%	2,800	SF	0.193
Roof Area - Flat		7,250	SF	0.500
Roof Area - Total		7,250	SF	0.500
Interior Partitions		530	LF	0.037
Finished Area		14,500	SF	1.000

MGAC

Feasibility Study Cost Plan — General Ward 60 (LACO 1187) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	14,500 SF	
A10	Foundations		3%	13.76	200
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	13.76	200
B10	Superstructure		13%	65.02	943
B20	Exterior Enclosure		8%	38.18	554
B30	Roofing		2%	12.25	178
B	Shell		23%	115.45	1,674
C10	Interior Construction		3%	14.38	209
C20	Stairways		0%	2.07	30
C30	Interior Finishes		10%	48.23	699
C	Interiors		13%	64.68	938
D10	Conveying Systems		1%	6.90	100
D20	Plumbing Systems		4%	21.10	306
D30	Heating, Ventilation & Air Cond.		10%	50.55	733
D40	Fire Protection		1%	7.00	102
D50	Elect'l Lighting, Power & Comm.		17%	83.32	1,208
D	Services		34%	168.87	2,449
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	10.51	152
E	Equipment & Furnishings		2%	10.51	152
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	12.61	183
F	Special Construction & Demolition		3%	12.61	183
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	385.88	5,595
Z10	Design Contingency	10.00%	8%	38.59	560
Z11	General Requirements	4.00%	3%	16.98	246
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	441.45	6,401
Z21	General Conditions	6.00%	5%	26.49	384
Z22	Bonds & Insurance	1.50%	1%	7.02	102
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	17.81	258
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	492.76	7,145
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	492.76	7,145

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				112,500
Foundation upgrade	7,250	SF	10.00	72,500
New elevator pit	1	LS	40,000.00	40,000
A1030 Slab On Grade				87,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	2,900	SF	30.00	87,000
Remove/replace ramp including railings				*site*
				199,500
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				797,720
Strengthen connections between floors and lateral elements	7,250	SF	10.00	72,500
Install new moment frames at the building perimeter	14,924	SF	30.00	447,720
Elevator corewalls	1,300	SF	75.00	97,500
Patch/repair damaged suspended slab, allow 50%	3,600	SF	50.00	180,000
Lightweight concrete topping, 1-1/2"				*n/a*
B1020 Roof Construction				145,000
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	7,250	SF	20.00	145,000
				942,720

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				222,480
Patch, repair plaster exterior walls, allow 40%	4,120	SF	14.00	57,680
Painting to exterior walls	10,300	SF	3.00	30,900
Loose fill insulation				*n/a*
Plaster and repaint interior face of exterior walls	10,300	SF	13.00	133,900
B2020 Exterior Windows				319,200
Strip and remove rust, retrofit existing wood framed windows, replace hardware, install new high performance glazing	2,240	SF	110.00	246,400
New windows similar kind (high performance glazing), allow 20%	560	SF	130.00	72,800
B2030 Exterior Doors				12,000
New exterior doors	4	EA	3,000.00	12,000
				553,680
B30 Roofing				
B3010 Roof Coverings				177,625
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	7,250	SF	24.50	177,625
B3020 Roof Openings				
				177,625
C10 Interior Construction				
C1010 Partitions				84,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	2,100	SF	40.00	84,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				34,500
New wood doors including frames and hardware	15	EA	2,300.00	34,500
C1030 Fittings				90,000
Toilet partitions and accessories	16	EA	2,000.00	32,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	14,500	SF	4.00	58,000
				208,500
C20 Stairways				
C2010 Stair Construction				20,000
Repair/repaint existing stairs and railing	2	EA	10,000.00	20,000
C2020 Stair Finishes				10,000
New stair finishes	2	EA	5,000.00	10,000
				30,000
C30 Interior Finishes				
C3010 Wall Finishes				78,290
Patch/repair wall plaster, allow 30%	3,000	SF	14.00	42,000
Painting to interior partitions	10,600	SF	1.25	13,250
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
C3020 Floor Finishes				113,500
Patch/repair existing floor finish including base, allow 75%	10,900	SF	10.00	109,000
Existing to remain, allow for cleaning, allow 25%	3,600	SF	1.25	4,500
C3030 Ceiling Finishes				507,500
New gypsum plaster ceiling on wood lathe	14,500	SF	35.00	507,500
				699,290

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
D1010 Elevators & Lifts				100,000
Passenger elevator, 2 stops	1	EA	100,000.00	100,000
				100,000
D20 Plumbing Systems				
D2010 Plumbing Fixtures				48,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	24	EA	2,000.00	48,000
D2020 Domestic Water Distribution				84,500
Domestic service pipework				
Hose bibs, 3/4" (allowance)	2	EA	2,500.00	5,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	24	EA	3,000.00	72,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				115,500
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	14,500	SF	2.00	29,000
Condensate drainage pipework, fittings, < = 1-1/2", insulated	14,500	SF	1.00	14,500
Waste, vent, fittings, < = 6"	24	EA	3,000.00	72,000
D2040 Rain Water Drainage				43,500
Surface water drainage				
Roof & overflow drains, < = 6"	14,500	SF	3.00	43,500

	Quantity	Unit	Rate	Total
D2090 Other Plumbing Systems				14,500
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	14,500.00	14,500
				306,000
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				158,375
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	750	mbth	27.50	20,625
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	14,500	SF	1.50	21,750
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	14,500	SF	8.00	116,000
D3040 Distribution Systems				329,422
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	18,125	LB	12.00	217,500
Dampers	1	LS	21,750.00	21,750
Insulation	13,594	SF	4.50	61,172
Diffusers, registers and grilles	14,500	SF	2.00	29,000
D3050 Terminal & Package Units				154,500
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	15	EA	1,000.00	14,500
D3060 Controls and Instrumentation				65,250
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	14,500	SF	4.50	65,250

	Quantity	Unit	Rate	Total
D3070 Systems Testing & Balancing				21,750
Test and balance air systems	14,500	SF	1.50	21,750
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				733,047
D40 Fire Protection				
D4010 Sprinklers				101,500
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	14,500	SF	7.00	101,500
				101,500
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				301,875
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,200	AM	65.00	78,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels	20	KW	5,000.00	100,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	14,500	SF	3.50	50,750

	Quantity	Unit	Rate	Total
D5020 Lighting & Branch Wiring				580,000
User convenience power				
Panel board breakers, 120 V circuits	14,500	SF	2.00	29,000
Receptacles, including conduit and cable	14,500	SF	5.50	79,750
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	14,500	SF	27.50	398,750
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	14,500	SF	5.00	72,500
D5030 Communications & Security				203,000
Telephone and communications				
Telephone/data - including conduit & cable	14,500	SF	6.50	94,250
WAP	14,500	SF	1.00	14,500
DAS - Emergency response & cellular	14,500	SF	4.00	58,000
Cable tray/wire-way/j-hooks	14,500	SF	1.00	14,500
Audiovisual rough-in	14,500	SF	1.50	21,750
D5090 Other Electrical Systems				123,250
Fire alarm systems	14,500	SF	4.50	65,250
Security - perimeter access control & CCTV surveillance	14,500	SF	4.00	58,000
				1,208,125

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				152,400
Cabinets, countertops shelving and millwork	100	LF	1,000.00	100,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	2,800	SF	15.00	42,000

	Quantity	Unit	Rate	Total
Entrance mat	1	LS	5,000.00	5,000
				152,400
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				74,130
Selective demolition				
Exterior window	560	SF	5.00	2,800
Doors	4	EA	150.00	600
Built-up roofing including roof sheathing	7,250	SF	2.00	14,500
Demo/remove 75% of existing partitions	6,400	SF	3.00	19,200
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	14,500	SF	2.50	36,250
Allow for clearing/removal of storage debris	12	MH	65.00	780
F2020 Hazardous Components Abatement				108,750
Hazmat abatement - allowance	14,500	SF	7.50	108,750
				182,880

MGAC

Feasibility Study Cost Plan — General Ward 60 (LACO 1187)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - General Ward 60 (LACO 1187)				
Gross Site Area	12,300	SF		
Building footprint	7,250	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	25.00	125,000
Premium for permeable paving	2,500	SF	13.00	32,500
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	5,000	SF	6.00	30,000
Site Utilities	5,000	SF	25.00	125,000
Alternate Cost Before Markups				**347,500**
Z10 Design Contingency	10.00%			34,750
Z11 General Requirements	4.00%			15,290
Z21 General Conditions	6.00%			23,852
Z22 Bonds & Insurance	1.50%			6,321
Z23 Contractor's Overhead, Profit & Fee	3.75%			16,039
Z30 See Overall Summary for Escalation	0.00%			
				443,753

D LACO No. 1187 (General Ward 60) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
General Ward 60 #1187

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the General Ward 60 (LACO #1187) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for General Ward 60 #1187 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for General Ward 60 (LACO #1187), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an*

		acceptable to a more durable construction system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and

		roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.*
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant

		buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a	Utilize qualified staff or retain a qualified company to determine if toxic droppings

	special company been brought in for its disposal?	are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of*

		periodic inspections and observations • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department*

		Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*

UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage

		• pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Rear elevations windows covered in plywood	
2	South elevation windows needing plywood	
3	Interior condition.	

E LACO No. 1187 (General Ward 60) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

General Ward 60 (LACO 1187)

Mothballing Cost Plan — General Ward 60 (LACO 1187)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 60 (LACO 1187)		14,500	23.93	347
TOTAL BUILDING CONSTRUCTION			14,500	23.93	347
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**347**
Escalation to Midpoint (Jul 2021)		11.7%			40
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			15
	Project Management Consultant Services	2.0%			8
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			4
	Building Permit and Other Agency Fees	1.5%			6
	Owner Contingency/Construction Contingency	10.0%			42
Recommended Budget					***462***

MGAC

Mothballing Cost Plan — General Ward 60 (LACO 1187)

Item Description	Quantity	Unit	Rate	Total
1.) General Ward 60 (LACO 1187)				
No of floors	***2***	***EA***		
Gross Floor Area	***14,500***	***SF***		
Gross Wall Area	***10,300***	***SF***		
Roof Area	***7,412***	***SF***		
Windows Area	***2,800***	***SF***		
Gross Site Area	***12,400***	***SF***		
Building footprint	***7,412***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	14,500	SF	1.50	21,750
Repaint exterior walls	10,300	SF	2.00	20,600
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	2,800	SF	25.00	70,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	10,300	SF	0.10	1,030
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	7,412	SF	15.00	111,180
Termites, ants, rodents etc - inspection and allowance for treatment	14,500	SF	0.25	3,625
Install smoke & fire detectors including wiring	14,500	SF	1.00	14,500
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	5	EA	275.00	1,375
Remove debris and broom clean	14,500	SF	0.75	10,875
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**270,135**
Z10 Design Contingency	15.00%			40,520
Z11 General Requirements	3.00%			9,320
Z21 General Conditions	3.00%			9,599
Z22 Bonds & Insurance	1.50%			4,944
Z23 Contractor's Overhead, Profit & Fee	3.75%			12,544
				347,062

Feasibility Study Reports for LACO No. 1189 (Patient Ward 201)

Primary Contributor

ESA

A LACO No. 1189 (Patient Ward 201) – Architectural Assessment Report

Patient Ward 201 (LACO 1189)

5,583 s.f.
Primary Contributor to Historic District

Building Description

One of eleven nearly identical buildings, Patient Ward 201 (LACO No. 1189) is located on the northwest corner of Descanso Street and Hawthorn Avenue and is the eastern anchor of a row of nine patient wards that spans the block between Hawthorn Avenue and Laurel Street. Patient Ward 201 is a one-story, asymmetrical in appearance, and vernacular in design; it is rectangular in plan and longer than it is wide. The wood-framed building is capped by a high-pitched, front-gable-on-hip roof with moderately over-hanging eaves, exposed rafter tails, triangular brace supports, and composition shingles covering the roof. A gable projection is located at the south end of the west elevation roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. Triangular dormer vents and skylights are located on the east and west elevations. The building sits on a concrete slab foundation, and the exterior walls are reinforced concrete covered in smooth stucco. The primary entrance faces south onto the veranda, which is characterized by a raised concrete foundation, a shed roof with exposed beams and trusses, square wood posts, and iron pipe railings.

Plain wood trim with extended lintels frames the entry. There is a full-length, wood-framed, screened porch on the east elevation, capped by a shed roof projection, was enclosed to provide additional ward space. A secondary entrance, accessed by a concrete stoop, is located on the rear elevation. Original fenestration on all elevations can generally be described as bands of original wood-frame, one-over-one, double-hung sash windows with transoms, irregularly arranged, whose plain wood casings are characterized by slightly extended lintels. Also present are wood-frame one-light hopper windows with transoms and double-casement windows. Wood slat awnings have been added to west-facing windows. Concrete ramps and staircases with iron pipe railings provide access to the building. The property is in deteriorated condition and its windows and boards have been covered in plywood.[1]

Statement of Significance

The significance of LACO No. 1189 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 201 (LACO No. 1189),* prepared for the County of Los Angeles June 2, 2008.

Patient Ward 201 (LACO No. 1189) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1923 during a large building initiative in the 1920s under the Los Angeles County Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933-1952). Thirteen patient wards were constructed between 1923 and 1928 to treat chronically ill patients, marking the evolution of the mission of the County Farm from the housing and care of indigents to a long-term hospital facility. This building is one of the eleven extant examples of this property type in the Historic District. Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. A vernacular style building, it retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features: horizontal-massing and rectangular plan; continuous veranda on a raised foundation; high-pitched complex roof consisting of gable and hipped projections; linear bands of windows; and projecting screened porches. Its setting has been altered through the loss of westernmost two of the original ward buildings in the late 1990s, and the deterioration of the surrounding landscape.[2]

Entry elevation and Veranda.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 201 (LACO No. 1189),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The hip and gabled roof has asphalt shingles, exposed rafters and overhanging eaves. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement. Skylights are an alteration and not considered character defining.	• **6,200 s.f. Approx. per building,** • **82,000 for all patient wards and veranda.**
• **Covered veranda –** Wood joists are deteriorated. Railing in need of replacement. Roofing is deteriorated and covered in growth.	• **1,630 at each building**
• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **3,700 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **52 wood windows** • **4 exterior doors** • **Per building**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan not character defining. The original screen porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **5,583 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area. Original covered screen porch has been enclosed.	• **3,700 s.f.**
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **5,583 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –**Replace entire composition shingle roof, and, waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **5,583 s.f**
• **Exterior walls**- Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **3,700 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**

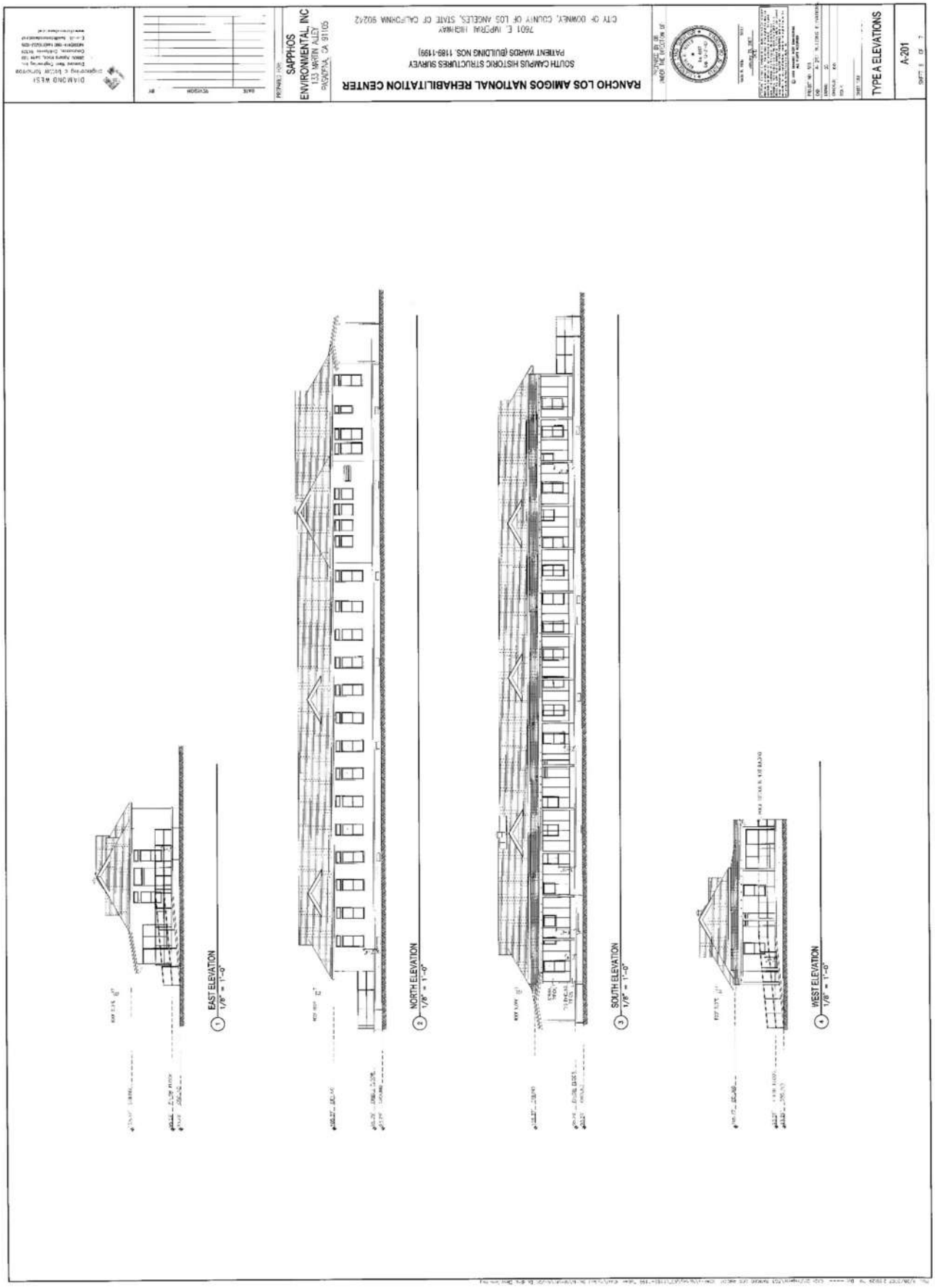
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **52 wood windows** • **Assume 25 % replace in kind**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **5,000 s.f. courtyard.** • **8 total for 40,000 s.f.**

Interior Spaces

It is assumed that this 5,583 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and repair wood flooring throughout.	• **5,583 s.f.**
• **Walls –** Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout.	• **5,593 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 lf.**
• **Lighting –** Provide new high-efficiency LED lighting and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	

• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restrooms-2 stalls, one sink per sex. 240 s.f. total.**
• **Electrical** – Provide new 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
133 WARTIN ALLEY
PASADENA, CA 91105
TYPE A ELEVATIONS
A-201
EAST ELEVATION
1/8" = 1'-0"
NORTH ELEVATION
1/8" = 1'-0"
SOUTH ELEVATION
1/8" = 1'-0"
WEST ELEVATION
1/8" = 1'-0"

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
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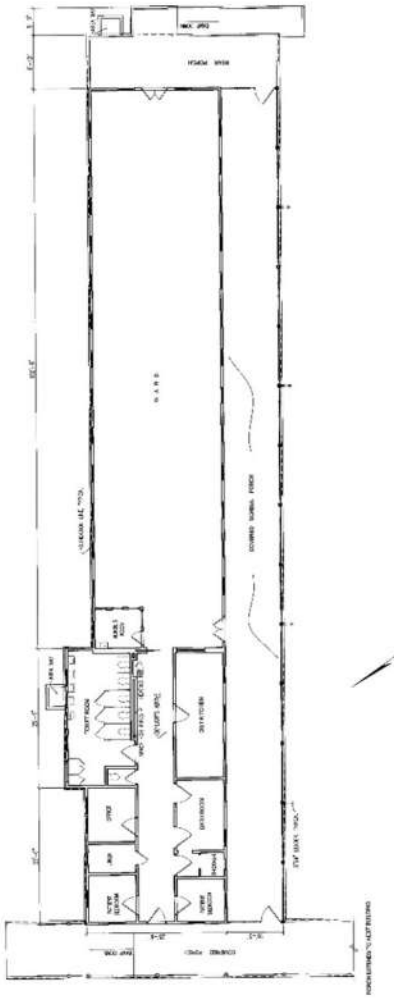
SAPPHOS ENVIRONMENTAL, INC
133 WARTIN ALLEY
PASADENA, CA 91105

TYPE A FLOOR PLAN

A-101



First Floor Plan Type A
1/8" = 1'-0"

Veranda

Partial East Elevation and Ramp

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior door “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.

South Elevation with Veranda

North Elevation and Courtyard

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.
9. Remove non-contributing shed.

B LACO No. 1189 (Patient Ward 201) – Structural Assessment Report

Structural Assessment: Patient Ward Building 201
(LACO NO. 1189)

Summary of Assessment
This building was constructed between 1923-1928, as part of a set of Patient Ward buildings. This report describes conditions representative of the entire set of buildings, and the suggested upgrades are recommended for the set as a whole. Some of the original plans were available for review. The Patient Ward buildings are single-story wood structures on concrete slabs and foundations with a 10-foot ceiling height. The walls are constructed of plaster over wood lath, a type of construction that is no longer used. The buildings contain numerous structural members that are deteriorated and may pose a threat to the buildings and their occupants in the event of a seismically induced ground movement.

This building is in poor condition. Deterioration and damage were observed throughout the structure, particularly in the roof framing and sheathing. Additionally, the building does not appear to have an adequate lateral-force-resisting system. Strengthening and new connections will be needed throughout the building, including at the roof, walls, foundation, and veranda. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this Patient Ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building
The typical building footprint is approximately 163 feet by 34 feet with the longer dimension running north-south. The gable roofing is composed of a shingle roof over ½-inch by 4-inch straight sheathing on 2 x 6 rafters at 24 inches on center. The roof rafters and ceiling joists are tied together with 2x web members to form field-constructed carpenter trusses at 24 inches on center.

The exterior walls around the main building supports are made of stucco plaster over metal lath on 2 x 4 wood studs. The interior walls are 2x wood stud walls with wood lath and plaster. The building has a raised wood floor consisting of wood framing with wood plank flooring. Water damage has likely deteriorated the floor framing in many areas, and a large portion of the framing will likely need to be replaced. The floor is supported on interior concrete pedestals and footings which create a 30-inch open crawl space. The exterior walls are supported by a continuous foundation.

Condition Assessment
The wood framing of these structures generally appears to be in poor condition. A large portion of existing wood elements may need replacement, repair, or strengthening. Deterioration of wood members exists in many areas where the floor, walls, and roof are exposed. Broken floor, wall, and roof sheathing was also observed in some places, as shown in Figure 1 through 4. There is some ceiling and wall damage due to water leaks; the wood members inside the ceiling and wall are likely damaged in these areas. The exposed rafters show a clear sign of decay, as seen in Figure 5[1]. Visual inspection revealed that some of the rafters are also heavily damaged. Figure 6 shows the deterioration of the external wall trim and paneling due to long-term exposure to the elements.

The ceilings are typically wood lath and plaster, which is heavy and subject to weakening due to prolonged moisture. Some rooms have ceiling tiles glued to drywall. Both types of ceiling pose a potential falling hazard, as the heavy plaster or the ceiling tiles could fall, cause injury, and block egress in a seismic event. In many areas, large portions

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

of ceiling or full tiles have already detached from the building. The ceilings should be completely removed and replaced.

Figure 7 shows major cracks found on the west side of one of the Patient Ward buildings. Moreover, reinforcement exposed by delamination of concrete was noticed at a porch foundation, as shown in Figure 8. The deterioration shown in these photos is typical for the set of buildings.

The veranda structure, which provides a walkway connecting the front entrances of all the Patient Ward buildings, also has signs of deterioration. The fascia at each side is completely deteriorated, as shown in Figure 9, and much of the wood framing for the veranda roof displays signs of dry rot, as shown in Figure 10. It is likely that 50 to 100% of the framing will need to be replaced. The veranda roof is supported on 6 x 6 wood posts on each side of the walkway. As seen in Figure 11, it is apparent that the posts have been exposed to severe weather conditions, and in some cases, are badly damaged at the base.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. The building's light-weight construction significantly reduces the forces and stresses induced on the building during an earthquake. This is likely the reason why the Patient Ward buildings appear to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, these buildings would be expected to perform below the life safety standard. The existing roof and wall construction can withstand very little lateral force. In addition, the cripple wall below the floor will be subjected to a high amount of movement and shear stress.

Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

The cracks and delamination of concrete at the foundation are not expected to significantly compromise the integrity of the building. The concrete foundation appears to be in fair condition for a building of this age.

There are several concerns with the veranda at the south side of the buildings. The deterioration of the posts will likely continue, which could lead to partial collapse even without a seismic event. The posts are not positively connected to the roof or the foundation, as shown in Figure 12 and 13, which, in the event of an earthquake, could cause the structure to separate and may lead to collapse. Additionally, the veranda structure and the Patient Ward buildings will likely try to move independently from each other, but the veranda is currently attached to all buildings. This connection between the veranda and the buildings could lead to damaged roof framing and potential falling hazards and safety risks. A seismic separation should be added at each building (adding a new post adjacent to the separation to support the veranda roof as depicted in Figure 14), and the posts should be bolted to the roof and foundation.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be needed at every wall. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning

north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Add a series of cantilevered steel columns at the sun porch to vertically and laterally support the roof framing and maintain the character-defining full-height windows. The new cantilevered columns will require new concrete caisson footings.
- Steel shear panels or new plywood sheathing will need to be added to all exterior walls (other than the sun porch outer wall) and to all interior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new cripple wall supports and new shallow foundations.
- Add hold downs at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace deteriorated wood members (roof and wall framing) as needed.
- Install concrete pier supports as needed beneath interior bearing walls.
- Replace wood flooring where holes or damage occur.
- Remove and replace plaster ceilings and ceiling tiles.
- Repair floor where differential settlement has led to deformed or broken framing.
- Upgrade foundations throughout the building.

Veranda

- Replace the fascia.
- Replace any roof framing damaged by dry rot, termites, or other causes. It is likely that 40 to 80% of the framing will need to be replaced.
- Replace posts with steel cantilever columns (wrapped with wood finish). Provide bolted connections to foundation and veranda roof.
- Provide expansion joints in the veranda between buildings (See Figure 14).
    - Provide shoring to temporarily support the structure while joints are created.
    - Cut a joint across the width of the veranda roof and add a secondary post near the joint at the north side. Eight joints and new posts total are expected.
- Disconnect the existing handrails from the wood posts; provide new handrail support to slab or to new posts.

Figure 1: Damaged roof structure

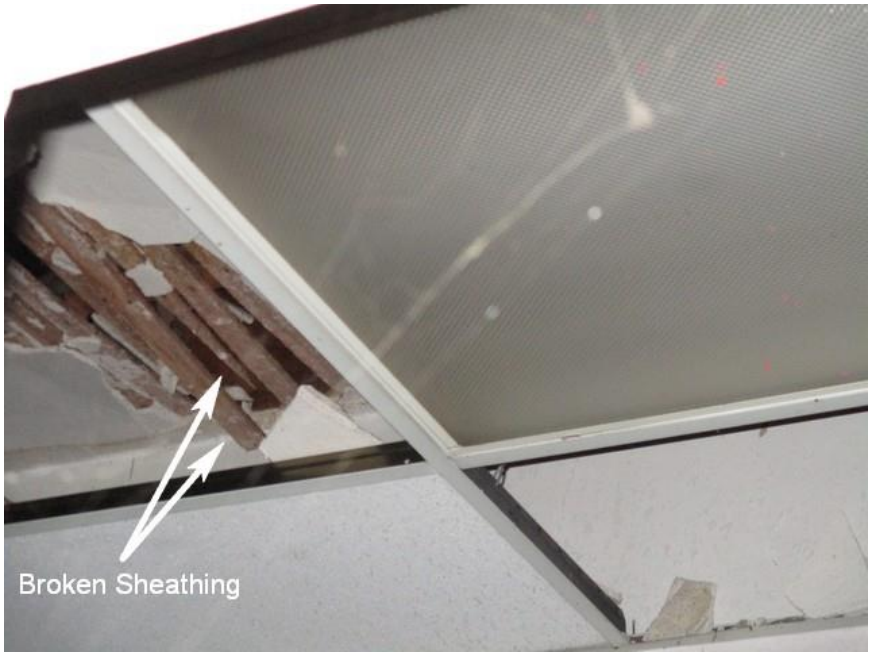


Figure 2: Fallen ceiling and damaged sheathing

Figure 3: Broken floor sheathing

Figure 4: Damaged wood lath and plaster wall (interior)

Figure 5: Decay of exposed rafters

Figure 6: Deterioration of exterior trim and paneling

Figure 7: Foundation cracks

Figure 8: Exposed rebar at crawl space

Figure 9: Fully deteriorated fascia at veranda

Figure 10: Deterioration and dry rot of veranda roof framing

Figure 11: Deteriorated post base

Figure 12: Lack of connection between post base and foundation

Figure 13: Lack of connection between post and roof framing

Figure 14: Recommended seismic joint upgrades at veranda

C LACO No. 1189 (Patient Ward 201) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Patient Ward 201 (LACO 1189)

MGAC

Feasibility Study Cost Plan — Patient Ward 201 (LACO 1189)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 201 (LACO 1189)		5,583	464.80	2,595
SUB-TOTAL BUILDING CONSTRUCTION			5,583	464.80	2,595
S1	Sitework		5,000	83.00	415
	Premium for enhanced sustainable site features				45
SUB-TOTAL SITEWORK					460
TOTAL BUILDING AND SITEWORK					**3,055**
Escalation to Midpoint (Jul 2021)		11.7%			356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			273
	Project Management Consultant Services	3.0%			111
	FF & E	5.8%			220
	Taxes and Indirect Fees	1.0%			40
	Building Permit and Other Agency Fees	1.5%			61
	Owner Contingency/Construction Contingency	25.0%			1,029
Recommended Budget					***5,145***

Feasibility Study Cost Plan — Patient Ward 201 (LACO 1189) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,583		
TOTAL GROSS FLOOR AREA	**5,583**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.000
Gross Area		5,583	SF	1.000
Enclosed Area		5,583	SF	1.000
Covered Area		1,630	SF	0.292
Footprint Area		5,583	SF	1.000
Gross Wall Area		3,700	SF	0.663
Finished Wall Area		3,700	SF	0.663
Windows or Glazing	30%	1,100	SF	0.197
Roof Area - Sloping		6,200	SF	1.111
Roof Area - Total		6,200	SF	1.111
Roof Glazing Area		50	SF	0.009
Interior Partitions		185	LF	0.033
Finished Area		5,583	SF	1.000

Feasibility Study Cost Plan — Patient Ward 201 (LACO 1189) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,583 SF	
A10	Foundations		2%	10.00	56
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	56
B10	Superstructure		7%	34.16	191
B20	Exterior Enclosure		11%	48.84	273
B30	Roofing		5%	25.22	141
B	Shell		23%	108.23	604
C10	Interior Construction		2%	11.43	64
C20	Stairways		0%	0.00	0
C30	Interior Finishes		10%	45.85	256
C	Interiors		12%	57.28	320
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.58	109
D30	Heating, Ventilation & Air Cond.		10%	47.20	264
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		18%	81.43	455
D	Services		33%	155.21	867
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	19.61	110
E	Equipment & Furnishings		4%	19.61	110
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	13.66	76
F	Special Construction & Demolition		3%	13.66	76
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	363.99	2,032
Z10	Design Contingency	10.00%	8%	36.40	203
Z11	General Requirements	4.00%	3%	16.02	89
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	416.41	2,325
Z21	General Conditions	6.00%	5%	24.98	139
Z22	Bonds & Insurance	1.50%	1%	6.62	37
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.80	94
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	464.82	2,595
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	464.80	2,595

MGAC

Feasibility Study Cost Plan — Patient Ward 201 (LACO 1189)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				55,830
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	5,583	SF	10.00	55,830
A1030 Slab On Grade				
Remove/replace ramp including railings				*site*
				55,830
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				43,541
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 10%	600	SF	40.00	24,000
Lightweight concrete topping, 1 1/2"	5,583	SF	3.50	19,541
B1020 Roof Construction				147,200
Repair/replace deteriorated roof structure; allow 50%	3,100	SF	30.00	93,000
Strengthen wall and diaphragm connection, provide new roof sheathing	6,200	SF	8.50	52,700
Provide expansion joints between veranda and building	1	LS	1,500.00	1,500
				190,741

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				148,000
Strengthening of existing exterior walls; add shear panels both sides	3,700	SF	7.00	25,900
Weather barrier at exterior walls	3,700	SF	2.50	9,250
Plaster and repaint throughout exterior walls	3,700	SF	14.00	51,800
Plaster and repaint throughout interior face of exterior walls	3,700	SF	13.00	48,100
Loose fill insulation	3,700	SF	3.50	12,950
Veranda				*Sitework*
B2020 Exterior Windows				115,500
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	825	SF	100.00	82,500
New windows similar kind, high performance glazing; allow 25%	275	SF	120.00	33,000
B2030 Exterior Doors				9,200
New exterior doors	4	EA	2,300.00	9,200
				272,700
B30 Roofing				
B3010 Roof Coverings				133,300
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	6,200	SF	21.50	133,300
B3020 Roof Openings				7,500
Repair existing skylight framing, allow for new glazing and sealant	50	SF	150.00	7,500
				140,800
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				21,500
New wood doors including frames and hardware	10	EA	2,150.00	21,500
C1030 Fittings				30,332
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,583	SF	4.00	22,332
				63,832

C20 Stairways

				0

C30 Interior Finishes

C3010 Wall Finishes				21,500
Repair damaged wall plaster and repaint - interior partitions, allow 30%	1,100	SF	13.00	14,300
Ceramic wall tiles to toilets	400	SF	18.00	7,200
C3020 Floor Finishes				39,081
New floor finishes including base	5,583	SF	7.00	39,081
Repair existing flooring				*n/a*
C3030 Ceiling Finishes				195,405
New gypsum plaster ceiling	5,583	SF	35.00	195,405
				255,986

D10 Conveying Systems

				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				30,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	3,750.00	3,750
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				40,749
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,583	SF	2.00	11,166
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,583	SF	1.00	5,583
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,749
Surface water drainage				
Roof & overflow drains, < = 6"	5,583	SF	3.00	16,749
D2090 Other Plumbing Systems				5,583
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,583.00	5,583
				109,331

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				60,601
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	275	mbth	27.50	7,563
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,583	SF	1.50	8,375
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,583	SF	8.00	44,664
D3040 Distribution Systems				126,839
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,979	LB	12.00	83,745
Dampers	1	LS	8,374.50	8,375
Insulation	5,234	SF	4.50	23,553
Diffusers, registers and grilles	5,583	SF	2.00	11,166
D3050 Terminal & Package Units				40,583
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,583
D3060 Controls and Instrumentation				25,124
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,583	SF	4.50	25,124
D3070 Systems Testing & Balancing				8,375
Test and balance air systems	5,583	SF	1.50	8,375
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				263,521

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				39,081
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,583	SF	7.00	39,081
				39,081
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				105,666
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	35	kVA	975.00	34,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,583	SF	3.50	19,541
D5020 Lighting & Branch Wiring				223,320
User convenience power				
Panel board breakers, 120 V circuits	5,583	SF	2.00	11,166
Receptacles, including conduit and cable	5,583	SF	5.50	30,707
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,583	SF	27.50	153,533

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,583	SF	5.00	27,915
D5030 Communications & Security				78,162
Telephone and communications				
Telephone/data - including conduit & cable	5,583	SF	6.50	36,290
WAP	5,583	SF	1.00	5,583
DAS - Emergency response & cellular	5,583	SF	4.00	22,332
Cable tray/wire-way/j-hooks	5,583	SF	1.00	5,583
Audiovisual rough-in	5,583	SF	1.50	8,375
D5090 Other Electrical Systems				47,456
Fire alarm systems	5,583	SF	4.50	25,124
Security - perimeter access control & CCTV surveillance	5,583	SF	4.00	22,332
				454,603

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				109,500
Cabinets, countertops shelving and millwork	100	LF	900.00	90,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	1,100	SF	15.00	16,500
Entrance mat				*n/a*
				109,500

F10 Special Construction

				0

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				34,384
Selective demolition				
Exterior window	275	SF	5.00	1,375
Doors	14	EA	150.00	2,100
Shingled roofing including substrate/roof sheathing	6,200	SF	1.00	6,200
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,583	SF	3.00	16,749
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	3,720	SF	2.00	7,440
F2020 Hazardous Components Abatement				41,873
Hazmat abatement - allowance	5,583	SF	7.50	41,873
				76,257

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Patient Ward 201 (LACO 1189)				
Gross Site Area	10,600	SF		
Building footprint	5,583	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site Improvement				
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	20.00	100,000
Premium for permeable paving	2,500	SF	13.00	32,500
Veranda including rear porch				
Replace wood columns with steel columns (wrapped with wood finish), provide bolted connections to foundation & roof	6	EA	1,200.00	7,200
Provide expansion joints between veranda and building	1	LS	2,500.00	2,500
Replace deteriorated roof framing; allow 60%	1,000	SF	13.00	13,000
Provide new handrail support	75	LF	125.00	9,375
Replace wood fascia	75	LF	30.00	2,250
New roof sheathing	1,630	SF	3.50	5,705
Remove/replace roof shingles including waterproofing membrane and flashing	1,630	SF	20.00	32,600
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Lighting	1	LS	10,000.00	10,000
Site Utilities including site lighting and drainage	5,000	SF	15.00	75,000
Alternate Cost Before Markups				**325,130**
Z10 Design Contingency	10.00%			32,513
Z11 General Requirements	4.00%			14,306
Z21 General Conditions	6.00%			22,317
Z22 Bonds & Insurance	1.50%			5,914
Z23 Contractor's Overhead, Profit & Fee	3.75%			15,007
Z30 See Overall Summary for Escalation	0.00%			
				415,186

D LACO No. 1189 (Patient Ward 201) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Patient Ward 201 #1189

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Patient Ward 201 (LACO #1189) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Patient Ward 201 #1189 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Patient Ward 201 (LACO #1189), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction system. Provide rain leader extensions to*

		take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations*

		• *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department*

		Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*

UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage

		• pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Exterior eastern view with vandalized roof	
2	Veranda on south elevation	
3	Courtyard between Patient wards 201 and 202	

4	Windows are secured	
5	Fencing at rear of structures.	

E LACO No. 1189 (Patient Ward 201) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Patient Ward 201 (LACO 1189)

MGAC

Mothballing Cost Plan — Patient Ward 201 (LACO 1189)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 201 (LACO 1189)		5,583	37.61	210
TOTAL BUILDING CONSTRUCTION			5,583	37.61	210
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**210**
Escalation to Midpoint (Jul 2021)		11.7%			24
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			5
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			25
Recommended Budget					***279***

MGAC

Mothballing Cost Plan — Patient Ward 201 (LACO 1189)

Item Description	Quantity	Unit	Rate	Total
1.) Patient Ward 201 (LACO 1189)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,583***	***SF***		
Gross Wall Area	***3,700***	***SF***		
Roof Area	***6,200***	***SF***		
Windows Area	***1,100***	***SF***		
Gross Site Area	***10,600***	***SF***		
Building footprint	***5,583***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	5,583	SF	1.50	8,375
Repaint exterior walls	3,700	SF	2.00	7,400
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	1,100	SF	25.00	27,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,700	SF	0.10	370
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,200	SF	15.00	93,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,583	SF	0.25	1,396
Install smoke & fire detectors including wiring	5,583	SF	1.00	5,583
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,583	SF	0.75	4,187
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**163,561**
Z10 Design Contingency	15.00%			24,534
Z11 General Requirements	3.00%			5,643
Z21 General Conditions	3.00%			5,812
Z22 Bonds & Insurance	1.50%			2,993
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,595
				210,138

Feasibility Study Reports for LACO No. 1190 (Patient Ward 202)

Primary Contributor

ESA

A LACO No. 1190 (Patient Ward 202) – Architectural Assessment Report

Patient Ward 202 (LACO 1190)

5,583 s.f.
Primary Contributor to Historic District

Building Description

One of eleven nearly identical buildings, Patient Ward 202 (LACO No. 1190) is located in the east half of a row of nine patient wards that spans the block of Descanso Street between Hawthorn Avenue and Laurel Street. Two additional patient wards are located west of Laurel Street. Patient Ward 202 is a one-story, asymmetrical in appearance, and vernacular in design; it is rectangular in plan and longer than it is wide. The wood-framed building is capped by a high-pitched, front-gable-on-hip roof with moderately over-hanging eaves, exposed rafter tails, triangular braced supports, and composition shingles covering the roof. A gable projection is located at the south end of the west elevation roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. Triangular dormer vents and skylights are located on the east and west elevations. The building sits on a concrete slab foundation, and the exterior walls are reinforced concrete covered in smooth stucco. The primary entrance faces south onto the veranda, which is characterized by a raised concrete foundation, a shed roof with exposed beams and trusses, square wood post, and iron pipe railings. Plain wood trim with extended lintels frames the entry.

A full-length, wood-framed, screened porch on the east elevation, capped by a shed roof projection, was enclosed to provide additional ward space. A secondary entrance, accessed by a concrete stoop, is located on the rear elevation. Original fenestration on all elevations can generally be described as bands of original wood-frame, one-over-one, double-hung sash windows with transoms, irregularly arranged, whose plain wood casings are characterized by slightly extended lintels. Also present are wood-frame one-light hopper windows with transoms and double-casement windows. Wood slat awnings have been added to west-facing windows. Concrete ramps and staircases with iron pipe railings provide access to the building. The property is in deteriorated condition and its windows and boards have been covered in plywood.[1]

Statement of Significance

The significance of LACO No. 1190 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> Patient Ward 202 (LACO No. 1190) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1923 during a large building initiative in the 1920s under

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 202 (LACO No. 1190),* prepared for the County of Los Angeles June 2, 2008

the Los Angeles County Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933-1952). Thirteen patient wards were constructed between 1923 and 1928 to treat chronically ill patients, marking the evolution of the mission of the County Farm from the housing and care of indigents to a long-term hospital facility. This building is one of the eleven extant examples of this property type in the Historic District.

Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. A vernacular style building, it retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features: horizontal-massing and rectangular plan; continuous veranda on a raised foundation; high-pitched complex roof consisting of gable and hipped projections; linear bands of windows; and projecting screened porches. Its setting has been altered through the loss of westernmost two of the original ward buildings in the late 1990s, and the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 202 (LACO No. 1190),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has composed asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **6,200 s.f. Approx. per building,** • **82,000 for all patient wards and veranda.**
• **Covered veranda –** Wood joists are deteriorated. Railing in need of replacement. Roofing is deteriorated and covered in growth.	• **1,630 at each building**
• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **3,700 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **52 wood windows** • **4 exterior doors** • **Per building**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan not character defining. The original screen porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor.	• **5,583 s.f.**

However, water damage to the flooring was observed as well as visible standing water on flooring materials.	
• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area. Original covered screen porch has been enclosed.	• **3,700 s.f.**
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **5,583 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –**Replace entire composition shingle roof, and, waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **5,583 s.f.**
• **Exterior walls**- Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **3,700 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate	• **52 wood windows**

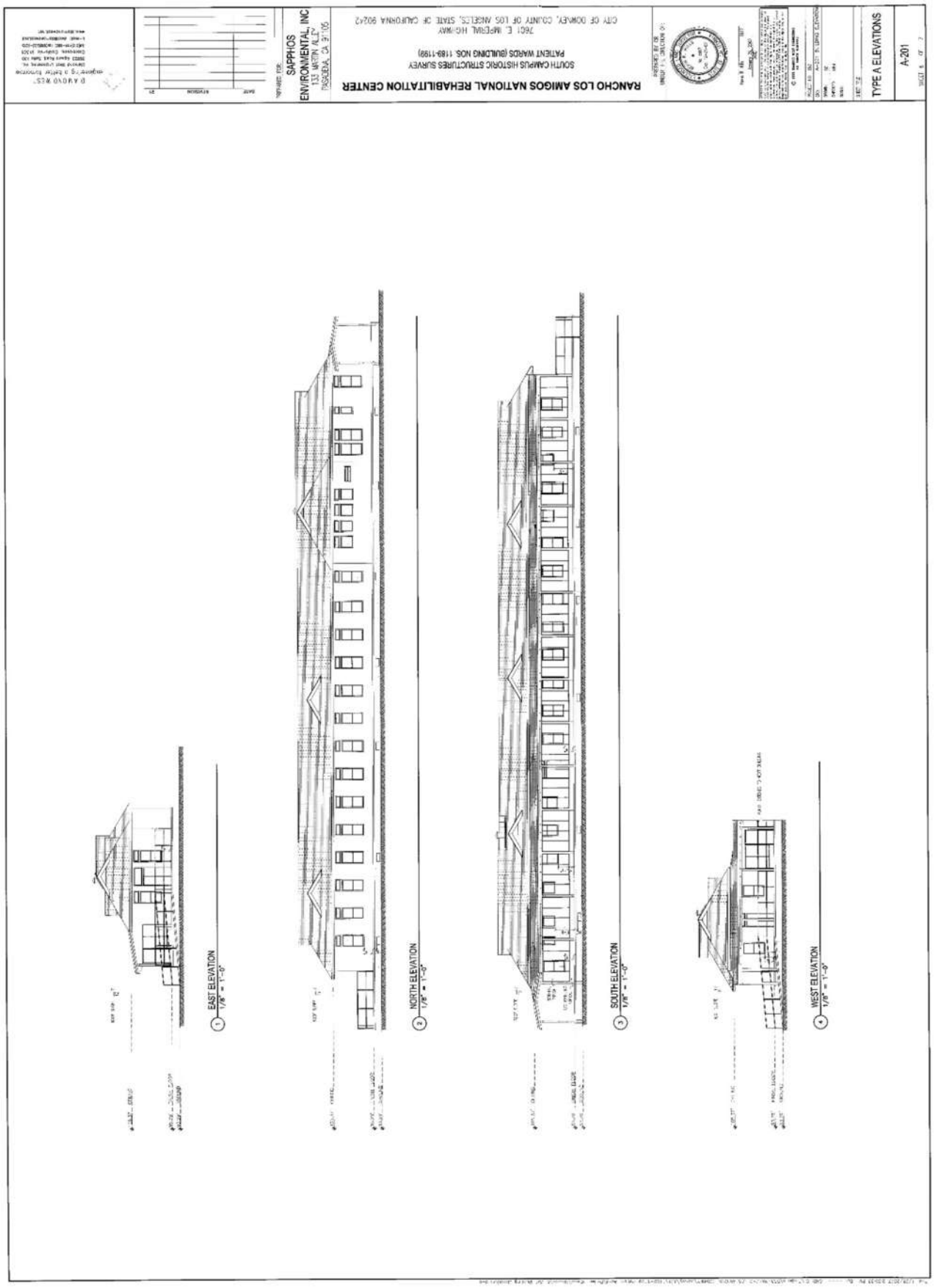
glazing. Where repair is not possible replace in kind.	• **Assume 25% repair in kind**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **5,000 s.f. courtyard.** • **8 total for 40,000 s.f.**

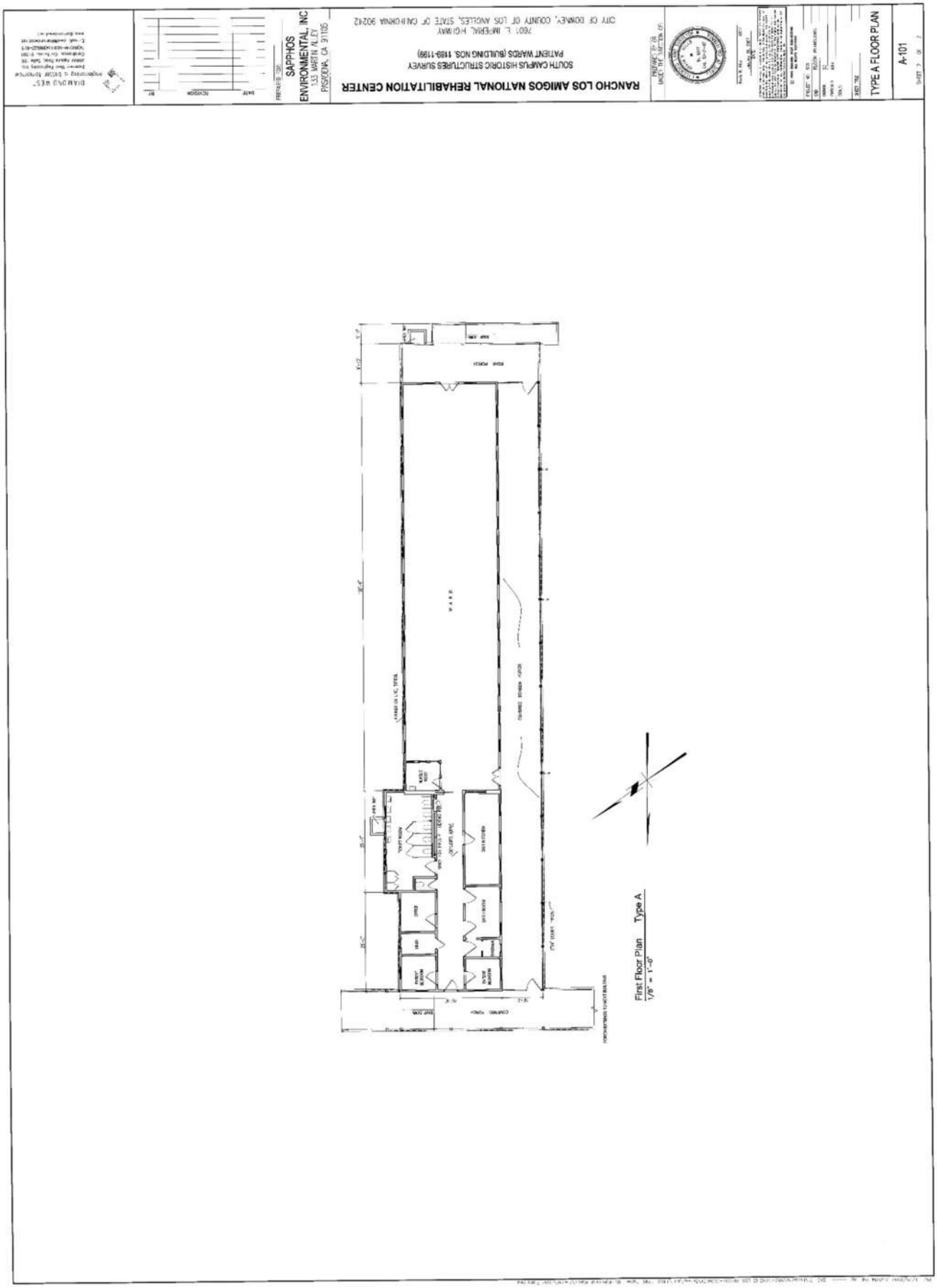
Interior Spaces

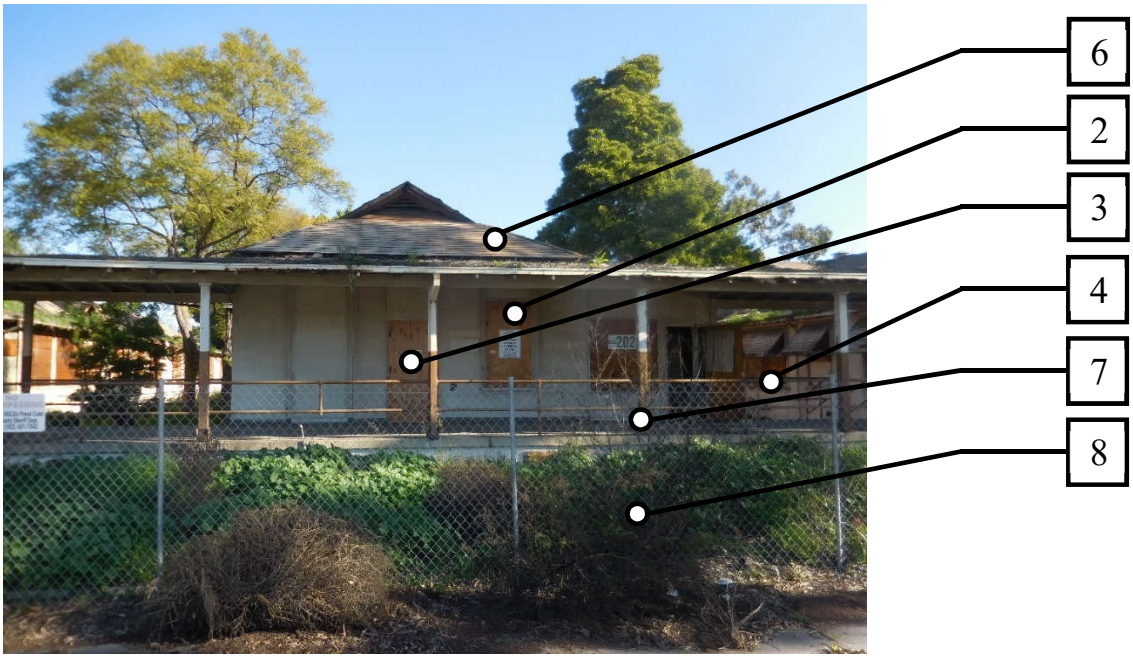
It is assumed that this 5,583 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and repair wood flooring throughout.	• **5,583 s.f.**
• **Walls –** Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout.	• **5,593 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 l.f.**
• **Lighting –** Provide new high-efficiency LED lighting and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	

• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restrooms-2 stalls, one sink per sex. 240 s.f. total.**
• **Electrical** – Provide new 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in rear location and provide with new railings and new maximum slope of 8%.	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1198)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A ELEVATIONS
A-201
EAST ELEVATION
1/8" = 1'-0"
NORTH ELEVATION
1/8" = 1'-0"
SOUTH ELEVATION
1/8" = 1'-0"
WEST ELEVATION
1/8" = 1'-0"


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A FLOOR PLAN
A-101
First Floor Plan Type A
1/8" = 1'-0"



South Elevation with Veranda

Courtyard

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.

Roof with vandalized flashing and growth

Veranda Roof Structure

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.

B LACO No. 1190 (Patient Ward 202) – Structural Assessment Report

Structural Assessment: Patient Ward Building 202
(LACO NO. 1190)

Summary of Assessment
This building was constructed between 1923-1928, as part of a set of Patient Ward buildings. This report describes conditions representative of the entire set of buildings, and the suggested upgrades are recommended for the set as a whole. Some of the original plans were available for review. The Patient Ward buildings are single-story wood structures on concrete slabs and foundations with a 10-foot ceiling height. The walls are constructed of plaster over wood lath, a type of construction that is no longer used. The buildings contain numerous structural members that are deteriorated and may pose a threat to the buildings and their occupants in the event of a seismically induced ground movement.

This building is in poor condition. Deterioration and damage were observed throughout the structure, particularly in the roof framing and sheathing. Additionally, the building does not appear to have an adequate lateral-force-resisting system. Strengthening and new connections will be needed throughout the building, including at the roof, walls, foundation, and veranda. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this Patient Ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building
The typical building footprint is approximately 163 feet by 34 feet with the longer dimension running north-south. The gable roofing is composed of a shingle roof over ½-inch by 4-inch straight sheathing on 2 x 6 rafters at 24 inches on center. The roof rafters and ceiling joists are tied together with 2x web members to form field-constructed carpenter trusses at 24 inches on center.

The exterior walls around the main building supports are made of stucco plaster over metal lath on 2 x 4 wood studs. The interior walls are 2x wood stud walls with wood lath and plaster. The building has a raised wood floor consisting of wood framing with wood plank flooring. Water damage has likely deteriorated the floor framing in many areas, and a large portion of the framing will likely need to be replaced. The floor is supported on interior concrete pedestals and footings which create a 30-inch open crawl space. The exterior walls are supported by a continuous foundation.

Condition Assessment
The wood framing of these structures generally appears to be in poor condition. A large portion of existing wood elements may need replacement, repair, or strengthening. Deterioration of wood members exists in many areas where the floor, walls, and roof are exposed. Broken floor, wall, and roof sheathing was also observed in some places, as shown in Figure 1 through 4. There is some ceiling and wall damage due to water leaks; the wood members inside the ceiling and wall are likely damaged in these areas. The exposed rafters show a clear sign of decay, as seen in Figure 5[1]. Visual inspection revealed that some of the rafters are also heavily damaged. Figure 6 shows the deterioration of the external wall trim and paneling due to long-term exposure to the elements.

The ceilings are typically wood lath and plaster, which is heavy and subject to weakening due to prolonged moisture. Some rooms have ceiling tiles glued to drywall. Both types of ceiling pose a potential falling hazard, as the heavy plaster or the ceiling tiles could fall, cause injury, and block egress in a seismic event. In many areas, large portions

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

of ceiling or full tiles have already detached from the building. The ceilings should be completely removed and replaced.

Figure 7 shows major cracks found on the west side of one of the Patient Ward buildings. Moreover, reinforcement exposed by delamination of concrete was noticed at a porch foundation, as shown in Figure 8. The deterioration shown in these photos is typical for the set of buildings.

The veranda structure, which provides a walkway connecting the front entrances of all the Patient Ward buildings, also has signs of deterioration. The fascia at each side is completely deteriorated, as shown in Figure 9, and much of the wood framing for the veranda roof displays signs of dry rot, as shown in Figure 10. It is likely that 50 to 100% of the framing will need to be replaced. The veranda roof is supported on 6 x 6 wood posts on each side of the walkway. As seen in Figure 11, it is apparent that the posts have been exposed to severe weather conditions, and in some cases, are badly damaged at the base.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. The building's light-weight construction significantly reduces the forces and stresses induced on the building during an earthquake. This is likely the reason why the Patient Ward buildings appear to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, these buildings would be expected to perform below the life-safety standard. The existing roof and wall construction can withstand very little lateral force. In addition, the cripple wall below the floor will be subjected to a high amount of movement and shear stress.

Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

The cracks and delamination of concrete at the foundation are not expected to significantly compromise the integrity of the building. The concrete foundation appears to be in fair condition for a building of this age.

There are several concerns with the veranda at the south side of the buildings. The deterioration of the posts will likely continue, which could lead to partial collapse even without a seismic event. The posts are not positively connected to the roof or the foundation, as shown in Figure 12 and 13, which, in the event of an earthquake, could cause the structure to separate and may lead to collapse. Additionally, the veranda structure and the Patient Ward buildings will likely try to move independently from each other, but the veranda is currently attached to all buildings. This connection between the veranda and the buildings could lead to damaged roof framing and potential falling hazards and safety risks. A seismic separation should be added at each building (adding a new post adjacent to the separation to support the veranda roof as depicted in Figure 14), and the posts should be bolted to the roof and foundation.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be needed at every wall. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning

north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Add a series of cantilevered steel columns at the sun porch to vertically and laterally support the roof framing and maintain the character-defining full-height windows. The new cantilevered columns will require new concrete caisson footings.
- Steel shear panels or new plywood sheathing will need to be added to all exterior walls (other than the sun porch outer wall) and to all interior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new cripple wall supports and new shallow foundations.
- Add hold downs at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove (and replace) existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace deteriorated wood members (roof and wall framing) as needed.
- Install concrete pier supports as needed beneath interior bearing walls.
- Replace wood flooring where holes or damage occur.
- Remove and replace plaster ceilings and ceiling tiles.
- Repair floor where differential settlement has led to deformed or broken framing.
- Upgrade foundations throughout the building.

Veranda

- Replace the fascia.
- Replace any roof framing damaged by dry rot, termites, or other causes. It is likely that 40 to 80% of the framing will need to be replaced.
- Replace posts with steel cantilever columns (wrapped with wood finish). Provide bolted connections to foundation and veranda roof.
- Provide expansion joints in the veranda between buildings (See Figure 14).
    - Provide shoring to temporarily support the structure while joints are created.
    - Cut a joint across the width of the veranda roof and add a secondary post near the joint at the north side. Eight joints and new posts total are expected.
- Disconnect the existing handrails from the wood posts; provide new handrail support to slab or to new posts.

Figure 1: Damaged roof structure

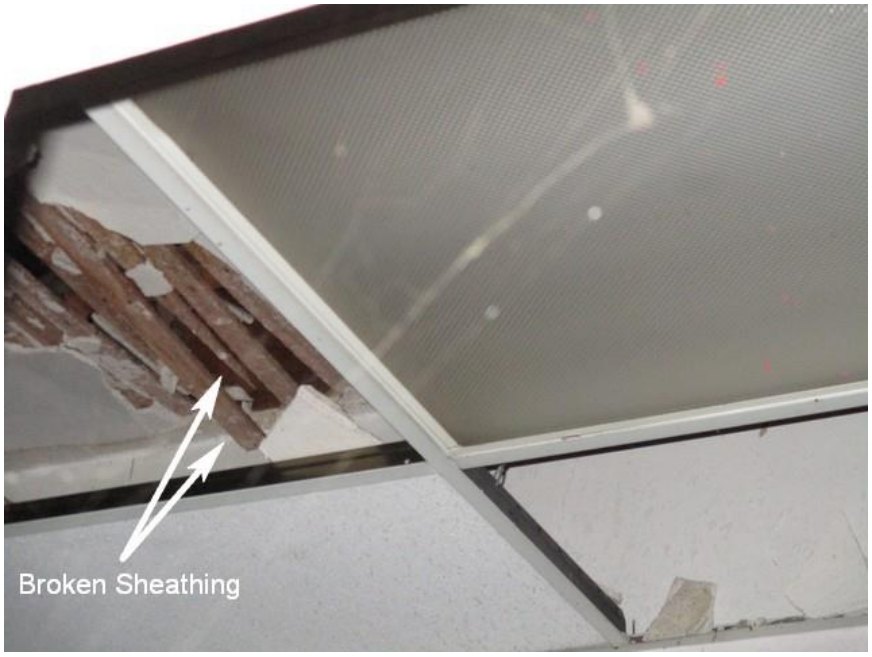


Figure 2: Fallen ceiling and damaged sheathing

Figure 3: Broken floor sheathing

Figure 4: Damaged wood lath and plaster wall (interior)

Figure 5: Decay of exposed rafters

Figure 6: Deterioration of exterior trim and paneling

Figure 7: Foundation cracks

Figure 8: Exposed rebar at crawl space

Figure 9: Fully deteriorated fascia at veranda

Figure 10: Deterioration and dry rot of veranda roof framing

Figure 11: Deteriorated post base

Figure 12: Lack of connection between post base and foundation

Figure 13: Lack of connection between post and roof framing

Figure 14: Recommended seismic joint upgrades at veranda

C LACO No. 1190 (Patient Ward 202) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Patient Ward 202 (LACO 1190)

MGAC

Feasibility Study Cost Plan — Patient Ward 202 (LACO 1190)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 202 (LACO 1190)		5,583	464.80	2,595
SUB-TOTAL BUILDING CONSTRUCTION			5,583	464.80	2,595
S1	Sitework		5,000	83.00	415
	Premium for enhanced sustainable site features				45
SUB-TOTAL SITEWORK					460
TOTAL BUILDING AND SITEWORK					**3,055**
Escalation to Midpoint (Jul 2021)		11.7%			356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			273
	Project Management Consultant Services	3.0%			111
	FF & E	5.8%			220
	Taxes and Indirect Fees	1.0%			40
	Building Permit and Other Agency Fees	1.5%			61
	Owner Contingency/Construction Contingency	25.0%			1,029
Recommended Budget					***5,145***

MGAC

Feasibility Study Cost Plan — Patient Ward 202 (LACO 1190) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,583		
TOTAL GROSS FLOOR AREA	**5,583**		**0**

Control Quantities				Ratio to GFA
Number of stories		1	EA	0.000
Gross Area		5,583	SF	1.000
Enclosed Area		5,583	SF	1.000
Covered Area		1,630	SF	0.292
Footprint Area		5,583	SF	1.000
Gross Wall Area		3,700	SF	0.663
Finished Wall Area		3,700	SF	0.663
Windows or Glazing	30%	1,100	SF	0.197
Roof Area - Sloping		6,200	SF	1.111
Roof Area - Total		6,200	SF	1.111
Roof Glazing Area		50	SF	0.009
Interior Partitions		185	LF	0.033
Finished Area		5,583	SF	1.000

MGAC

Feasibility Study Cost Plan — Patient Ward 202 (LACO 1190) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,583 SF	
A10	Foundations		2%	10.00	56
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	56
B10	Superstructure		7%	34.16	191
B20	Exterior Enclosure		11%	48.84	273
B30	Roofing		5%	25.22	141
B	Shell		23%	108.23	604
C10	Interior Construction		2%	11.43	64
C20	Stairways		0%	0.00	0
C30	Interior Finishes		10%	45.85	256
C	Interiors		12%	57.28	320
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.58	109
D30	Heating, Ventilation & Air Cond.		10%	47.20	264
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		18%	81.43	455
D	Services		33%	155.21	867
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	19.61	110
E	Equipment & Furnishings		4%	19.61	110
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	13.66	76
F	Special Construction & Demolition		3%	13.66	76
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	363.99	2,032
Z10	Design Contingency	10.00%	8%	36.40	203
Z11	General Requirements	4.00%	0%	16.02	89
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	416.41	2,325
Z21	General Conditions	6.00%	5%	24.98	139
Z22	Bonds & Insurance	1.50%	1%	6.62	37
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.80	94
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	464.82	2,595
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	464.80	2,595

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				55,830
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	5,583	SF	10.00	55,830
A1030 Slab On Grade				
Remove/replace ramp including railings				*site*
				55,830
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				43,541
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 10%	600	SF	40.00	24,000
Lightweight concrete topping, 1 1/2"	5,583	SF	3.50	19,541
B1020 Roof Construction				147,200
Repair/replace deteriorated roof structure; allow 50%	3,100	SF	30.00	93,000
Strengthen wall and diaphragm connection, provide new roof sheathing	6,200	SF	8.50	52,700
Provide expansion joints between veranda and building	1	LS	1,500.00	1,500
				190,741

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				148,000
Strengthening of existing exterior walls; add shear panels both sides	3,700	SF	7.00	25,900
Weather barrier at exterior walls	3,700	SF	2.50	9,250
Plaster and repaint throughout exterior walls	3,700	SF	14.00	51,800
Plaster and paint throughout interior face of exterior walls	3,700	SF	13.00	48,100
Loose fill insulation	3,700	SF	3.50	12,950
Veranda				Sitework
B2020 Exterior Windows				115,500
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	825	SF	100.00	82,500
New windows similar kind, high performance glazing; allow 25%	275	SF	120.00	33,000
B2030 Exterior Doors				9,200
New exterior doors	4	EA	2,300.00	9,200
				272,700
B30 Roofing				
B3010 Roof Coverings				133,300
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	6,200	SF	21.50	133,300
B3020 Roof Openings				7,500
Repair existing skylight framing, allow for new glazing and sealant	50	SF	150.00	7,500
				140,800
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				21,500
New wood doors including frames and hardware	10	EA	2,150.00	21,500
C1030 Fittings				30,332
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,583	SF	4.00	22,332
				63,832

C20 Stairways

				0

C30 Interior Finishes

C3010 Wall Finishes				21,500
Repair damaged wall plaster and repaint - interior partitions, allow 30%	1,100	SF	13.00	14,300
Ceramic wall tiles to toilets	400	SF	18.00	7,200
C3020 Floor Finishes				39,081
New floor finishes including base	5,583	SF	7.00	39,081
Repair existing flooring				n/a
C3030 Ceiling Finishes				195,405
New gypsum plaster ceiling	5,583	SF	35.00	195,405
				255,986

D10 Conveying Systems

				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				30,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	3,750.00	3,750
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				40,749
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,583	SF	2.00	11,166
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,583	SF	1.00	5,583
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,749
Surface water drainage				
Roof & overflow drains, < = 6"	5,583	SF	3.00	16,749
D2090 Other Plumbing Systems				5,583
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,583.00	5,583
				109,331

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				60,601
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	275	mbth	27.50	7,563
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,583	SF	1.50	8,375
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,583	SF	8.00	44,664
D3040 Distribution Systems				126,839
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,979	LB	12.00	83,745
Dampers	1	LS	8,374.50	8,375
Insulation	5,234	SF	4.50	23,553
Diffusers, registers and grilles	5,583	SF	2.00	11,166
D3050 Terminal & Package Units				40,583
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,583
D3060 Controls and Instrumentation				25,124
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,583	SF	4.50	25,124
D3070 Systems Testing & Balancing				8,375
Test and balance air systems	5,583	SF	1.50	8,375

	Quantity	Unit	Rate	Total
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				263,521
D40 Fire Protection				
D4010 Sprinklers				39,081
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,583	SF	7.00	39,081
				39,081
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				105,666
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	35	kVA	975.00	34,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,583	SF	3.50	19,541
D5020 Lighting & Branch Wiring				223,320
User convenience power				
Panel board breakers, 120 V circuits	5,583	SF	2.00	11,166
Receptacles, including conduit and cable	5,583	SF	5.50	30,707

	Quantity	Unit	Rate	Total
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,583	SF	27.50	153,533
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,583	SF	5.00	27,915
D5030 Communications & Security				78,162
Telephone and communications				
Telephone/data - including conduit & cable	5,583	SF	6.50	36,290
WAP	5,583	SF	1.00	5,583
DAS - Emergency response & cellular	5,583	SF	4.00	22,332
Cable tray/wire-way/j-hooks	5,583	SF	1.00	5,583
Audiovisual rough-in	5,583	SF	1.50	8,375
D5090 Other Electrical Systems				47,456
Fire alarm systems	5,583	SF	4.50	25,124
Security - perimeter access control & CCTV surveillance	5,583	SF	4.00	22,332
				454,603

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				109,500
Cabinets, countertops shelving and millwork	100	LF	900.00	90,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	1,100	SF	15.00	16,500
Entrance mat				*n/a*
				109,500

MGAC

Feasibility Study Cost Plan — Patient Ward 202 (LACO 1190)

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				34,384
Selective demolition				
Exterior window	275	SF	5.00	1,375
Doors	14	EA	150.00	2,100
Shingled roofing including substrate/roof sheathing	6,200	SF	1.00	6,200
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,583	SF	3.00	16,749
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	3,720	SF	2.00	7,440
F2020 Hazardous Components Abatement				41,873
Hazmat abatement - allowance	5,583	SF	7.50	41,873
				76,257

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Patient Ward 202 (LACO 1190)				
Gross Site Area	10,600	SF		
Building footprint	5,583	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site Improvement				*230,130*
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	20.00	100,000
Premium for permeable paving	2,500	SF	13.00	32,500
Veranda including rear porch				
Replace wood columns with steel columns (wrapped with wood finish), provide bolted connections to foundation & roof	6	EA	1,200.00	7,200
Provide expansion joints between veranda and building	1	LS	2,500.00	2,500
Replace deteriorated roof framing; allow 60%	1,000	SF	13.00	13,000
Provide new handrail support	75	LF	125.00	9,375
Replace wood fascia	75	LF	30.00	2,250
New roof sheathing	1,630	SF	3.50	5,705
Remove/replace roof shingles including waterproofing membrane and flashing	1,630	SF	20.00	32,600
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Lighting	1	LS	10,000.00	10,000
Site Utilities including site lighting and drainage	5,000	SF	15.00	75,000
Alternate Cost Before Markups				**325,130**
Z10 Design Contingency	10.00%			32,513
Z11 General Requirements	4.00%			14,306
Z21 General Conditions	6.00%			22,317
Z22 Bonds & Insurance	1.50%			5,914
Z23 Contractor's Overhead, Profit & Fee	3.75%			15,007
Z30 See Overall Summary for Escalation	0.00%			
				415,186

D LACO No. 1190 (Patient Ward 202) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Patient Ward 202 #1190

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Patient Ward 202 (LACO #1190) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Patient Ward 202 #1190 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Patient Ward 202 (LACO #1190), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction*

		system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

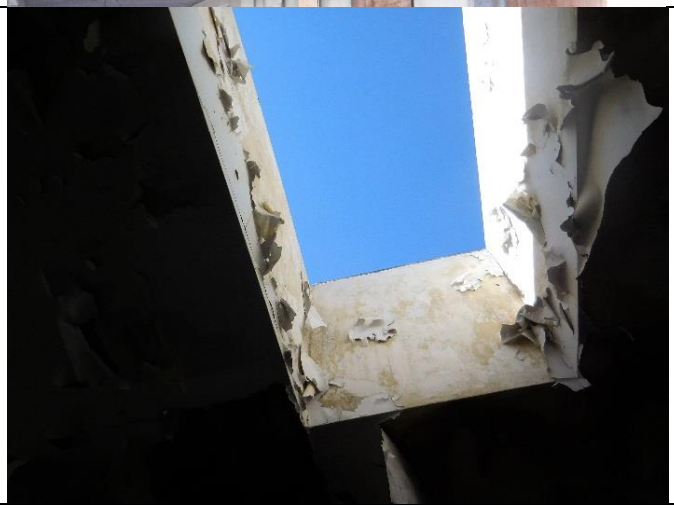
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department.* *Install manual fire extinguishers attached to*

		the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully	Yes. County staff stated that all utility

	inspected water, gas, and electric lines?	services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism

		• check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Exterior eastern view with vandalized roof flashing	
2	Veranda on south elevation	
3	Open skylight	

4	South Elevation at veranda	
5	Courtyard	

E LACO No. 1190 (Patient Ward 202) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Patient Ward 202 (LACO 1190)

MGAC

Mothballing Cost Plan — Patient Ward 202 (LACO 1190)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 202 (LACO 1190)		5,583	37.61	210
TOTAL BUILDING CONSTRUCTION			5,583	37.61	210
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**210**
Escalation to Midpoint (Jul 2021)		11.7%			24
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			5
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			25
Recommended Budget					***279***

MGAC

Mothballing Cost Plan — Patient Ward 202 (LACO 1190)

Item Description	Quantity	Unit	Rate	Total
1.) Patient Ward 202 (LACO 1190)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,583***	***SF***		
Gross Wall Area	***3,700***	***SF***		
Roof Area	***6,200***	***SF***		
Windows Area	***1,100***	***SF***		
Gross Site Area	***10,600***	***SF***		
Building footprint	***5,583***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	5,583	SF	1.50	8,375
Repaint exterior walls	3,700	SF	2.00	7,400
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	1,100	SF	25.00	27,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,700	SF	0.10	370
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,200	SF	15.00	93,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,583	SF	0.25	1,396
Install smoke & fire detectors including wiring	5,583	SF	1.00	5,583
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	*2,000*
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,583	SF	0.75	4,187
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**163,561**
Z10 Design Contingency	15.00%			24,534
Z11 General Requirements	3.00%			5,643
Z21 General Conditions	3.00%			5,812
Z22 Bonds & Insurance	1.50%			2,993
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,595
				210,138

Feasibility Study Reports for LACO No. 1191 (Patient Ward 203)

Primary Contributor

ESA

A LACO No. 1191 (Patient Ward 203) – Architectural Assessment Report

Patient Ward 203 (LACO 1191)

5,583 s.f.
Primary Contributor to Historic District

Building Description

One of eleven nearly identical buildings, Patient Ward 203 (LACO No. 1191) is located in the east half of a row of nine patient wards that spans the block of Descanso Street between Hawthorn Avenue and Laurel Street. Two additional patient wards are located west of Laurel Street. Patient Ward 203 is a one-story, asymmetrical in appearance, and vernacular in design; it is rectangular in plan and longer than it is wide. The wood-framed building is capped by a high-pitched, front-gable-on-hip roof with moderately over-hanging eaves, exposed rafter tails, triangular braced supports, and composition shingles covering the roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. Triangular dormer vents and skylights are located on the east and west elevations. The building sits on a concrete slab foundation, and the exterior walls are reinforced concrete covered in smooth stucco. The primary entrance faces south onto the veranda, which is characterized by a raised concrete foundation, a shed roof with exposed beams and trusses, square wood posts, and iron pipe railings. Plain wood trim with extended lintels frames the entry. There is a full-length, wood-framed, screened porch on the east elevation, capped by a shed roof projection, that is enclosed to provide additional ward space. A secondary entrance, accessed by a concrete stoop, is located on the rear elevation. Original fenestration on all elevations can generally be described as bands of original wood-frame, one-over-one, double-hung sash windows with transoms, irregularly arranged, whose plain wood casings are characterized by slightly extended lintels. Also present are wood-frame, one-light hopper windows with transoms and double-casement windows. Concrete ramps and staircases with iron railings provide access to the building. The property is in deteriorated condition and its windows and boards have been covered in plywood.[1]

Statement of Significance

The significance of LACO No. 1191 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> Patient Ward 203 (LACO No. 1191) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1923 during a large building initiative in the 1920s under the Los Angeles County Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933- 1952). Thirteen patient wards were constructed between 1923

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 203 (LACO No. 1191),* prepared for the County of Los Angeles June 2, 2008.

and 1928 to treat chronically ill patients, marking the evolution of the mission of the County Farm from the housing and care of indigents to a long-term hospital facility. This building is one of the eleven extant examples of this property type in the Historic District.

Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. A vernacular style building, it retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features: horizontal-massing and rectangular plan; continuous veranda on a raised foundation; high-pitched complex roof consisting of gable and hipped projections; linear bands of windows; and projecting screened porches. Its setting has been altered through the loss of westernmost two of the original ward buildings in the late 1990s, and the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has composed asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the	• **6,200 s.f. Approx. per building,**

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 203 (LACO No. 1191),* prepared for the County of Los Angeles June 2, 2008.

roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **82,000 for all patient wards and veranda.**
• **Covered veranda –** Wood joists are deteriorated. Railing in need of replacement.	• **1,630 at each building**
• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **3,700 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **52 wood windows** • **4 exterior doors** • **Per building**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan not character defining. The original screen porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **5,583 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area. Original covered screen porch has been enclosed.	

• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, which have been severely damaged.	• **5,583 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace entire composition shingle roof, and, waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **5,583 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended insulation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **52 wood windows**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent	• **5,000 s.f. courtyard.** • **8 totals for 40,000 s.f.**

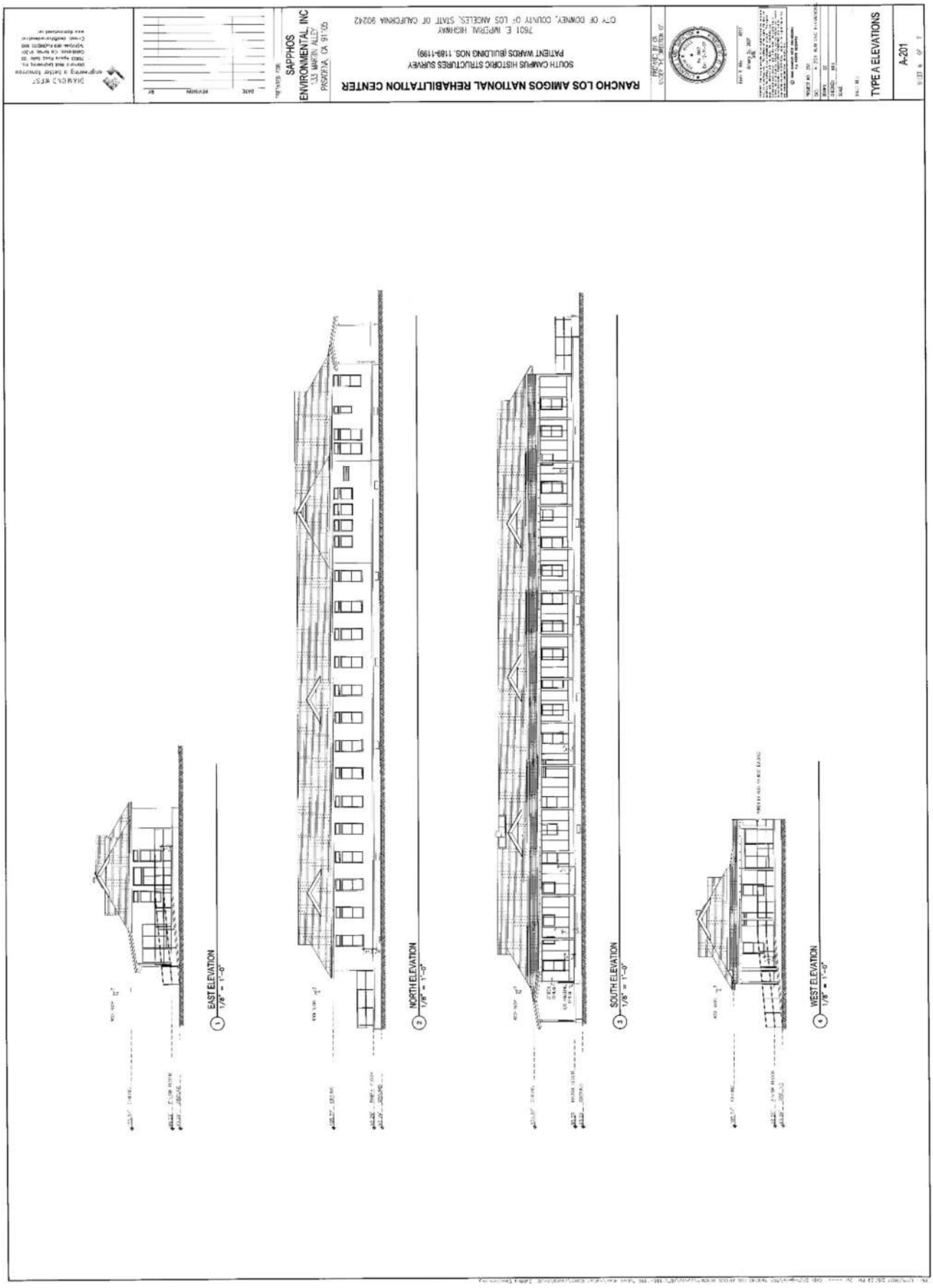
to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	

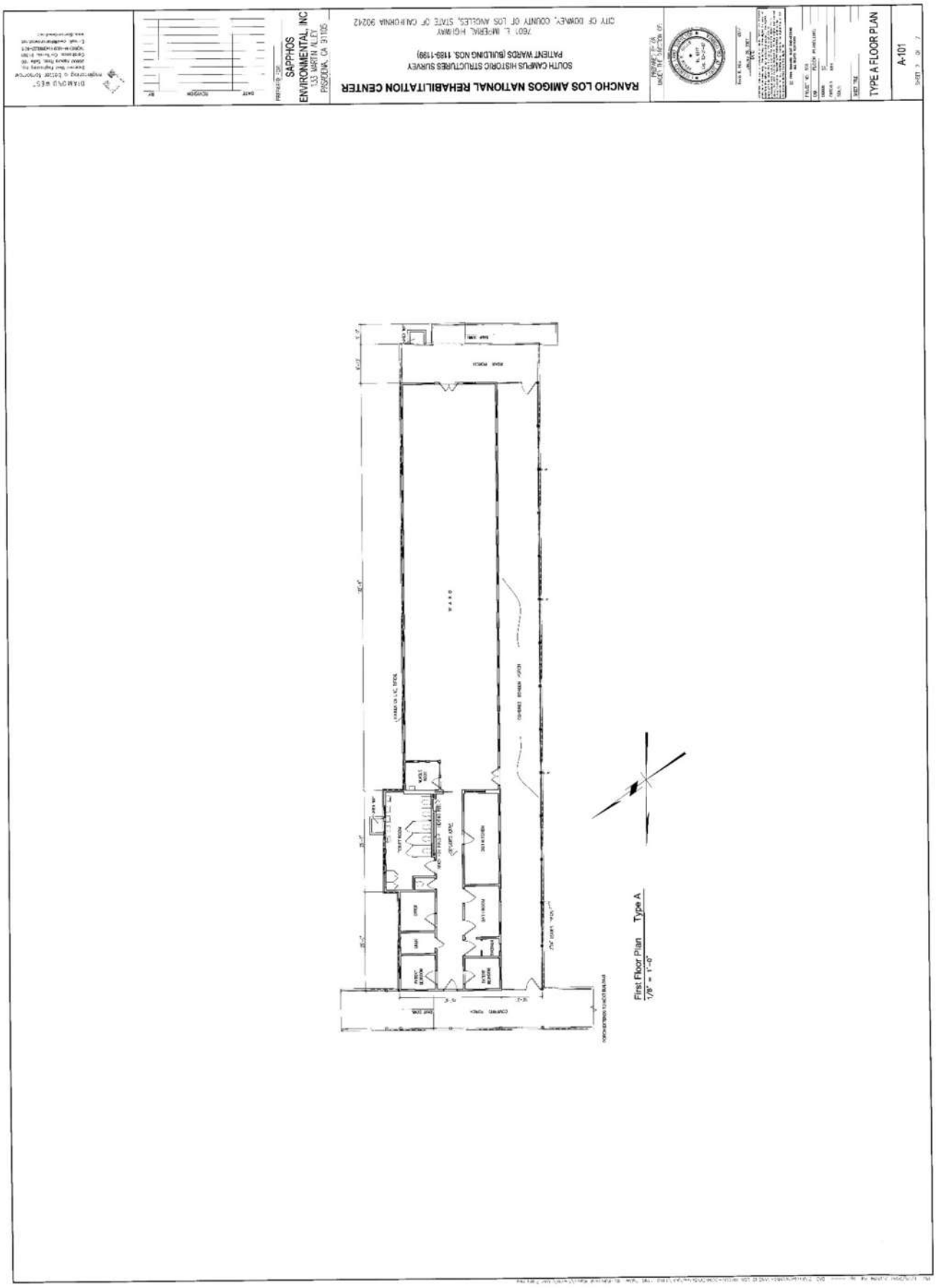
Interior Spaces

It is assumed that this 5,583 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and repair wood flooring throughout.	• **5,583 s.f.**
• **Walls –** Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **5,583 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restrooms-2 stalls, one sink per sex. 240 s.f. total.**
• **Electrical** – Provide new 800 Amp system.	

• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in rear location and provide with new railings and new maximum slope of 8%.	

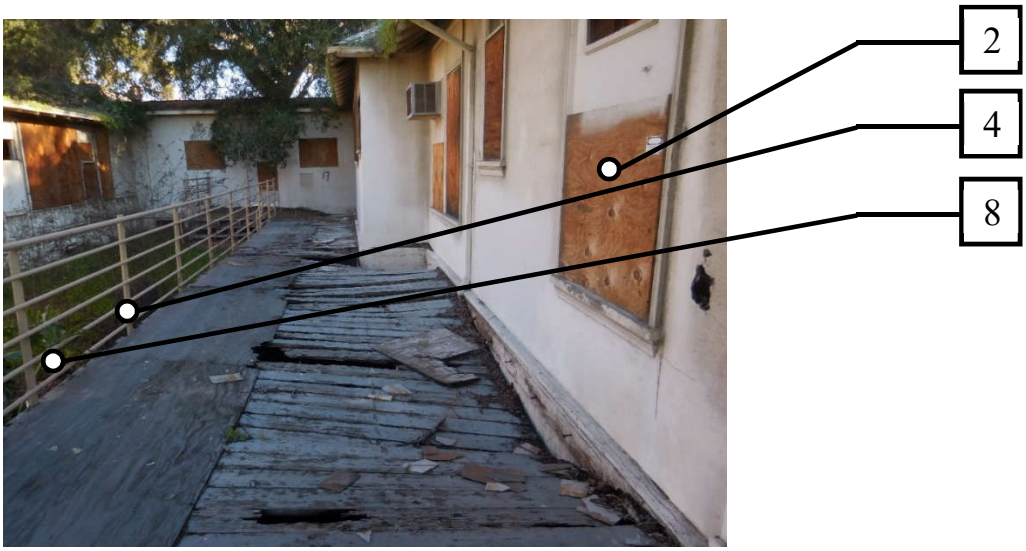

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATTENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A ELEVATIONS
A-201
EAST ELEVATION
1/8" = 1'-0"
NORTH ELEVATION
1/8" = 1'-0"
SOUTH ELEVATION
1/8" = 1'-0"
WEST ELEVATION
1/8" = 1'-0"


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A FLOOR PLAN
A-101
First Floor Plan Type A
1/8" = 1'-0"

South Elevation with Veranda

Continuous Veranda

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.



West exterior and courtyard

Interior

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.

B LACO No. 1191 (Patient Ward 203) – Structural Assessment Report

Structural Assessment: Patient Ward Building 203
(LACO NO. 1191)

Summary of Assessment
This building was constructed between 1923-1928, as part of a set of Patient Ward buildings. This report describes conditions representative of the entire set of buildings, and the suggested upgrades are recommended for the set as a whole. Some of the original plans were available for review. The Patient Ward buildings are single-story wood structures on concrete slabs and foundations with a 10-foot ceiling height. The walls are constructed of plaster over wood lath, a type of construction that is no longer used. The buildings contain numerous structural members that are deteriorated and may pose a threat to the buildings and their occupants in the event of a seismically induced ground movement.

This building is in poor condition. Deterioration and damage were observed throughout the structure, particularly in the roof framing and sheathing. Additionally, the building does not appear to have an adequate lateral-force-resisting system. Strengthening and new connections will be needed throughout the building, including at the roof, walls, foundation, and veranda. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this Patient Ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building
The typical building footprint is approximately 163 feet by 34 feet with the longer dimension running north-south. The gable roofing is composed of a shingle roof over ½-inch by 4-inch straight sheathing on 2 x 6 rafters at 24 inches on center. The roof rafters and ceiling joists are tied together with 2x web members to form field-constructed carpenter trusses at 24 inches on center.

The exterior walls around the main building supports are made of stucco plaster over metal lath on 2 x 4 wood studs. The interior walls are 2x wood stud walls with wood lath and plaster. The building has a raised wood floor consisting of wood framing with wood plank flooring. Water damage has likely deteriorated the floor framing in many areas, and a large portion of the framing will likely need to be replaced. The floor is supported on interior concrete pedestals and footings which create a 30-inch open crawl space. The exterior walls are supported by a continuous foundation.

Condition Assessment
The wood framing of these structures generally appears to be in poor condition. A large portion of existing wood elements may need replacement, repair, or strengthening. Deterioration of wood members exists in many areas where the floor, walls, and roof are exposed. Broken floor, wall, and roof sheathing was also observed in some places, as shown in Figure 1 through 4. There is some ceiling and wall damage due to water leaks; the wood members inside the ceiling and wall are likely damaged in these areas. The exposed rafters show a clear sign of decay, as seen in Figure 5[1]. Visual inspection revealed that some of the rafters are also heavily damaged. Figure 6 shows the deterioration of the external wall trim and paneling due to long-term exposure to the elements.

The ceilings are typically wood lath and plaster, which is heavy and subject to weakening due to prolonged moisture. Some rooms have ceiling tiles glued to drywall. Both types of ceiling pose a potential falling hazard, as the heavy plaster or the ceiling tiles could fall, cause injury, and block egress in a seismic event. In many areas, large portions

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

of ceiling or full tiles have already detached from the building. The ceilings should be completely removed and replaced.

Figure 7 shows major cracks found on the west side of one of the Patient Ward buildings. Moreover, reinforcement exposed by delamination of concrete was noticed at a porch foundation, as shown in Figure 8. The deterioration shown in these photos is typical for the set of buildings.

The veranda structure, which provides a walkway connecting the front entrances of all the Patient Ward buildings, also has signs of deterioration. The fascia at each side is completely deteriorated, as shown in Figure 9, and much of the wood framing for the veranda roof displays signs of dry rot, as shown in Figure 10. It is likely that 50 to 100% of the framing will need to be replaced. The veranda roof is supported on 6 x 6 wood posts on each side of the walkway. As seen in Figure 11, it is apparent that the posts have been exposed to severe weather conditions, and in some cases, are badly damaged at the base.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. The building's light-weight construction significantly reduces the forces and stresses induced on the building during an earthquake. This is likely the reason why the Patient Ward buildings appear to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, these buildings would be expected to perform below the life-safety standard. The existing roof and wall construction can withstand very little lateral force. In addition, the cripple wall below the floor will be subjected to a high amount of movement and shear stress.

Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

The cracks and delamination of concrete at the foundation are not expected to significantly compromise the integrity of the building. The concrete foundation appears to be in fair condition for a building of this age.

There are several concerns with the veranda at the south side of the buildings. The deterioration of the posts will likely continue, which could lead to partial collapse even without a seismic event. The posts are not positively connected to the roof or the foundation, as shown in Figure 12 and 13, which, in the event of an earthquake, could cause the structure to separate and may lead to collapse. Additionally, the veranda structure and the Patient Ward buildings will likely try to move independently from each other, but the veranda is currently attached to all buildings. This connection between the veranda and the buildings could lead to damaged roof framing and potential falling hazards and safety risks. A seismic separation should be added at each building (adding a new post adjacent to the separation to support the veranda roof as depicted in Figure 14), and the posts should be bolted to the roof and foundation.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be needed at every wall. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning

north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Add a series of cantilevered steel columns at the sun porch to vertically and laterally support the roof framing and maintain the character-defining full-height windows. The new cantilevered columns will require new concrete caisson footings.
- Steel shear panels or new plywood sheathing will need to be added to all exterior walls (other than the sun porch outer wall) and to all interior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new cripple wall supports and new shallow foundations.
- Add hold downs at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove (and replace) existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace deteriorated wood members (roof and wall framing) as needed.
- Install concrete pier supports as needed beneath interior bearing walls.
- Replace wood flooring where holes or damage occur.
- Remove and replace plaster ceilings and ceiling tiles.
- Repair floor where differential settlement has led to deformed or broken framing.
- Upgrade foundations throughout the building.

Veranda

- Replace the fascia.
- Replace any roof framing damaged by dry rot, termites, or other causes. It is likely that 40 to 80% of the framing will need to be replaced.
- Replace posts with steel cantilever columns (wrapped with wood finish). Provide bolted connections to foundation and veranda roof.
- Provide expansion joints in the veranda between buildings (See Figure 14).
    - Provide shoring to temporarily support the structure while joints are created.
    - Cut a joint across the width of the veranda roof and add a secondary post near the joint at the north side. Eight joints and new posts total are expected.
- Disconnect the existing handrails from the wood posts; provide new handrail support to slab or to new posts.

Figure 1: Damaged roof structure

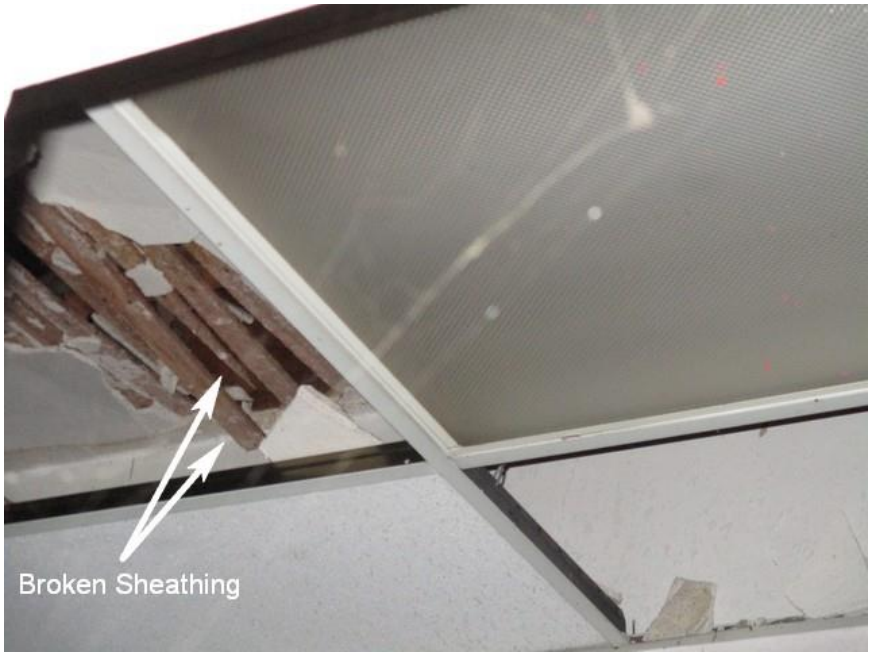


Figure 2: Fallen ceiling and damaged sheathing

Figure 3: Broken floor sheathing

Figure 4: Damaged wood lath and plaster wall (interior)

Figure 5: Decay of exposed rafters

Figure 6: Deterioration of exterior trim and paneling

Figure 7: Foundation cracks

Figure 8: Exposed rebar at crawl space

Figure 9: Fully deteriorated fascia at veranda

Figure 10: Deterioration and dry rot of veranda roof framing

Figure 11: Deteriorated post base

Figure 12: Lack of connection between post base and foundation

Figure 13: Lack of connection between post and roof framing

Figure 14: Recommended seismic joint upgrades at veranda

C LACO No. 1191 (Patient Ward 203) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Patient Ward 203 (LACO 1191)

MGAC

Feasibility Study Cost Plan — Patient Ward 203 (LACO 1191)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 203 (LACO 1191)		5,583	464.80	2,595
SUB-TOTAL BUILDING CONSTRUCTION			5,583	464.80	2,595
S1	Sitework		5,000	83.00	415
	Premium for enhanced sustainable site features				45
SUB-TOTAL SITEWORK					460
TOTAL BUILDING AND SITEWORK					**3,055**
Escalation to Midpoint (Jul 2021)		11.7%			356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			273
	Project Management Consultant Services	3.0%			111
	FF & E	5.8%			220
	Taxes and Indirect Fees	1.0%			40
	Building Permit and Other Agency Fees	1.5%			61
	Owner Contingency/Construction Contingency	25.0%			1,029
Recommended Budget					***5,145***

MGAC

Feasibility Study Cost Plan — Patient Ward 203 (LACO 1191) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,583		
TOTAL GROSS FLOOR AREA	**5,583**		**0**

Control Quantities				Ratio to GFA
Number of stories		1	EA	0.000
Gross Area		5,583	SF	1.000
Enclosed Area		5,583	SF	1.000
Covered Area		1,630	SF	0.292
Footprint Area		5,583	SF	1.000
Gross Wall Area		3,700	SF	0.663
Finished Wall Area		3,700	SF	0.663
Windows or Glazing	30%	1,100	SF	0.197
Roof Area - Sloping		6,200	SF	1.111
Roof Area - Total		6,200	SF	1.111
Roof Glazing Area		50	SF	0.009
Interior Partitions		185	LF	0.033
Finished Area		5,583	SF	1.000

MGAC

Feasibility Study Cost Plan — Patient Ward 203 (LACO 1191) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,583 SF	
A10	Foundations		2%	10.00	56
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	56
B10	Superstructure		7%	34.16	191
B20	Exterior Enclosure		11%	48.84	273
B30	Roofing		5%	25.22	141
B	Shell		23%	108.23	604
C10	Interior Construction		2%	11.43	64
C20	Stairways		0%	0.00	0
C30	Interior Finishes		10%	45.85	256
C	Interiors		12%	57.28	320
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.58	109
D30	Heating, Ventilation & Air Cond.		10%	47.20	264
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		18%	81.43	455
D	Services		33%	155.21	867
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	19.61	110
E	Equipment & Furnishings		4%	19.61	110
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	13.66	76
F	Special Construction & Demolition		3%	13.66	76
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	363.99	2,032
Z10	Design Contingency	10.00%	8%	36.40	203
Z11	General Requirements	4.00%	0%	16.02	89
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	416.41	2,325
Z21	General Conditions	6.00%	5%	24.98	139
Z22	Bonds & Insurance	1.50%	1%	6.62	37
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.80	94
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	464.82	2,595
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	464.80	2,595

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				55,830
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	5,583	SF	10.00	55,830
A1030 Slab On Grade				
Remove/replace ramp including railings				*site*
				55,830
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				43,541
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 10%	600	SF	40.00	24,000
Lightweight concrete topping, 1 1/2"	5,583	SF	3.50	19,541
B1020 Roof Construction				147,200
Repair/replace deteriorated roof structure; allow 50%	3,100	SF	30.00	93,000
Strengthen wall and diaphragm connection, provide new roof sheathing	6,200	SF	8.50	52,700
Provide expansion joints between veranda and building	1	LS	1,500.00	1,500
				190,741

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				148,000
Strengthening of existing exterior walls; add shear panels both sides	3,700	SF	7.00	25,900
Weather barrier at exterior walls	3,700	SF	2.50	9,250
Plaster and repaint throughout exterior walls	3,700	SF	14.00	51,800
Plaster and paint throughout interior face of exterior walls	3,700	SF	13.00	48,100
Loose fill insulation	3,700	SF	3.50	12,950
Veranda				*Sitework*
B2020 Exterior Windows				115,500
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	825	SF	100.00	82,500
New windows similar kind, high performance glazing; allow 25%	275	SF	120.00	33,000
B2030 Exterior Doors				9,200
New exterior doors	4	EA	2,300.00	9,200
				272,700
B30 Roofing				
B3010 Roof Coverings				133,300
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	6,200	SF	21.50	133,300
B3020 Roof Openings				7,500
Repair existing skylight framing, allow for new glazing and sealant	50	SF	150.00	7,500
				140,800
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				21,500
New wood doors including frames and hardware	10	EA	2,150.00	21,500
C1030 Fittings				30,332
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,583	SF	4.00	22,332
				63,832

C20 Stairways

				0

C30 Interior Finishes

C3010 Wall Finishes				21,500
Repair damaged wall plaster and repaint - interior partitions, allow 30%	1,100	SF	13.00	14,300
Ceramic wall tiles to toilets	400	SF	18.00	7,200
C3020 Floor Finishes				39,081
New floor finishes including base	5,583	SF	7.00	39,081
Repair existing flooring				n/a
C3030 Ceiling Finishes				195,405
New gypsum plaster ceiling	5,583	SF	35.00	195,405
				255,986

D10 Conveying Systems

				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				30,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	3,750.00	3,750
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				40,749
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,583	SF	2.00	11,166
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,583	SF	1.00	5,583
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,749
Surface water drainage				
Roof & overflow drains, < = 6"	5,583	SF	3.00	16,749
D2090 Other Plumbing Systems				5,583
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,583.00	5,583
				109,331

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				60,601
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	275	mbth	27.50	7,563
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,583	SF	1.50	8,375
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,583	SF	8.00	44,664
D3040 Distribution Systems				126,839
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,979	LB	12.00	83,745
Dampers	1	LS	8,374.50	8,375
Insulation	5,234	SF	4.50	23,553
Diffusers, registers and grilles	5,583	SF	2.00	11,166
D3050 Terminal & Package Units				40,583
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,583
D3060 Controls and Instrumentation				25,124
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,583	SF	4.50	25,124
D3070 Systems Testing & Balancing				8,375
Test and balance air systems	5,583	SF	1.50	8,375
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				263,521

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				39,081
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,583	SF	7.00	39,081
				39,081
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				105,666
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	35	kVA	975.00	34,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,583	SF	3.50	19,541
D5020 Lighting & Branch Wiring				223,320
User convenience power				
Panel board breakers, 120 V circuits	5,583	SF	2.00	11,166
Receptacles, including conduit and cable	5,583	SF	5.50	30,707
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,583	SF	27.50	153,533

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,583	SF	5.00	27,915
D5030 Communications & Security				78,162
Telephone and communications				
Telephone/data - including conduit & cable	5,583	SF	6.50	36,290
WAP	5,583	SF	1.00	5,583
DAS - Emergency response & cellular	5,583	SF	4.00	22,332
Cable tray/wire-way/j-hooks	5,583	SF	1.00	5,583
Audiovisual rough-in	5,583	SF	1.50	8,375
D5090 Other Electrical Systems				47,456
Fire alarm systems	5,583	SF	4.50	25,124
Security - perimeter access control & CCTV surveillance	5,583	SF	4.00	22,332
				454,603

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				109,500
Cabinets, countertops shelving and millwork	100	LF	900.00	90,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	1,100	SF	15.00	16,500
Entrance mat				*n/a*
				109,500

MGAC

Feasibility Study Cost Plan — Patient Ward 203 (LACO 1191)

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				34,384
Selective demolition				
Exterior window	275	SF	5.00	1,375
Exterior doors	14	EA	150.00	2,100
Shingled roofing including substrate/roof sheathing	6,200	SF	1.00	6,200
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,583	SF	3.00	16,749
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	3,720	SF	2.00	7,440
F2020 Hazardous Components Abatement				41,873
Hazmat abatement - allowance	5,583	SF	7.50	41,873
				76,257

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Patient Ward 203 (LACO 1191)				
Gross Site Area	10,600	SF		
Building footprint	5,583	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site Improvement				*230,130*
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	20.00	100,000
Premium for permeable paving	2,500	SF	13.00	32,500
Veranda including rear porch				
Replace wood columns with steel columns (wrapped with wood finish), provide bolted connections to foundation & roof	6	EA	1,200.00	7,200
Provide expansion joints between veranda and building	1	LS	2,500.00	2,500
Replace deteriorated roof framing; allow 60%	1,000	SF	13.00	13,000
Provide new handrail support	75	LF	125.00	9,375
Replace wood fascia	75	LF	30.00	2,250
New roof sheathing	1,630	SF	3.50	5,705
Remove/replace roof shingles including waterproofing membrane and flashing	1,630	SF	20.00	32,600
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Lighting	1	LS	10,000.00	10,000
Site Utilities including site lighting and drainage	5,000	SF	15.00	75,000
Alternate Cost Before Markups				**325,130**
Z10 Design Contingency	10.00%			32,513
Z11 General Requirements	4.00%			14,306
Z21 General Conditions	6.00%			22,317
Z22 Bonds & Insurance	1.50%			5,914
Z23 Contractor's Overhead, Profit & Fee	3.75%			15,007
Z30 See Overall Summary for Escalation	0.00%			
				415,186

D LACO No. 1191 (Patient Ward 203) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Patient Ward 203 #1191

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Patient Ward 203 (LACO #1191)on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Patient Ward 204 #1191 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Patient Ward 204 (LACO #1192), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction*

		system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		

H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the*

		building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station*

		that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for*

		landscape maintenance above.
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	**DESCRIPTION**	**Overview of General and Typical As-found Conditions March 2019**

1	Exterior eastern view with vandalized roof flashing	
2	Veranda on south elevation	

3	Interior condition	
4	Exterior entry at south elevation.	

5	Courtyard	

E LACO No. 1191 (Patient Ward 203) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Patient Ward 203 (LACO 1191)

MGAC

Mothballing Cost Plan — Patient Ward 203 (LACO 1191)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 203 (LACO 1191)		5,583	37.61	210
TOTAL BUILDING CONSTRUCTION			5,583	37.61	210
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**210**
Escalation to Midpoint (Jul 2021)		11.7%			24
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			5
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			25
Recommended Budget					***279***

MGAC

Mothballing Cost Plan — Patient Ward 203 (LACO 1191)

Item Description	Quantity	Unit	Rate	Total
1.) Patient Ward 203 (LACO 1191)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,583***	***SF***		
Gross Wall Area	***3,700***	***SF***		
Roof Area	***6,200***	***SF***		
Windows Area	***1,100***	***SF***		
Gross Site Area	***10,600***	***SF***		
Building footprint	***5,583***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	5,583	SF	1.50	8,375
Repaint exterior walls	3,700	SF	2.00	7,400
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	1,100	SF	25.00	27,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,700	SF	0.10	370
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,200	SF	15.00	93,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,583	SF	0.25	1,396
Install smoke & fire detectors including wiring	5,583	SF	1.00	5,583
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,583	SF	0.75	4,187
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**163,561**
Z10 Design Contingency	15.00%			24,534
Z11 General Requirements	3.00%			5,643
Z21 General Conditions	3.00%			5,812
Z22 Bonds & Insurance	1.50%			2,993
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,595
Z30 See Overall Summary for Escalation	0.00%			
				210,138

Feasibility Study Reports for LACO No. 1192 (Patient Ward 204)

Primary Contributor

ESA

A LACO No. 1192 (Patient Ward 204) – Architectural Assessment Report

Patient Ward 204 (LACO 1192)

5,583 s.f.
Primary Contributor to Historic District

Building Description

One of eleven nearly identical buildings, Patient Ward 204 (LACO No. 1192) is located in the east half of a row of nine patient wards that spans the block of Descanso Street between Hawthorn Avenue and Laurel Street. Patient Ward 204 is a one-story, asymmetrical in appearance, and vernacular in design; it is rectangular in plan and longer than it is wide. The wood-framed building is capped by a high-pitched, front-gable-on-hip roof with moderately over hanging eaves, exposed rafter tails, triangular braced supports, and composition shingles covering the roof. A gable projection is located at the south end of the west elevation roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. Triangular dormer vents and skylights are located on the east and west elevations. The building sits on a concrete slab foundation, and the exterior walls are reinforced concrete covered in smooth stucco. The primary entrance faces south onto the veranda, which is characterized by a raised concrete foundation, a shed roof with exposed beams and trusses, square wood posts, and iron pipe railings. Plain wood trim with extended lintels frames the entry.

A full-length, wood-framed, screened porch on the east elevation, capped by a shed roof projection that is enclosed to provide additional ward space. A secondary entrance, accessed by a concrete stoop, is located on the rear elevation. Original fenestration on all elevations can generally be described as bands of original wood-frame, one-over-one, double-hung sash windows with transoms, irregularly arranged, whose plain wood casings are characterized by slightly extended lintels. Also present are wood-framed, one-light hopper windows with transoms and double-casement windows. Wood slat awnings have been added to west-facing windows. Concrete ramps and staircases with iron railings provide access to the building. The property is in deteriorated condition and its windows and boards have been covered in plywood.[1]

Statement of Significance

The significance of LACO No. 1192 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> Patient Ward 204 (LACO No. 1192) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1923 during a large building initiative in the 1920s under

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 204 (LACO No. 1192),* prepared for the County of Los Angeles June 2, 2008.

the Los Angeles County Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933-1952). Thirteen patient wards were constructed between 1923 and 1928 to treat chronically ill patients, marking the evolution of the mission of the County Farm from the housing and care of indigents to a long-term hospital facility. This building is one of the eleven extant examples of this property type in the Historic District.

Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. A vernacular style building, it retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features: horizontal-massing and rectangular plan; continuous veranda on a raised foundation; high-pitched roof consisting of gable and hipped projections; linear bands of windows; and projecting screened porches. Its setting has been altered through the loss of westernmost two of the original ward buildings in the late 1990s, and the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 204 (LACO No. 1192),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has composed asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **6,200 s.f. Approx. per building,** • **82,000 for all patient wards and veranda.**
• **Covered veranda –** Wood joists are deteriorated. Railing in need of replacement.	• **1,630 at each building**
• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **3,700 s,f of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **52 wood windows** • **4 exterior doors** • **Per building**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **5,583 s.f.**

• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area. Original covered screen porch has been enclosed.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **5,583 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace entire composition shingle roof, and, waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **5,583 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation methods to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **52 wood windows**

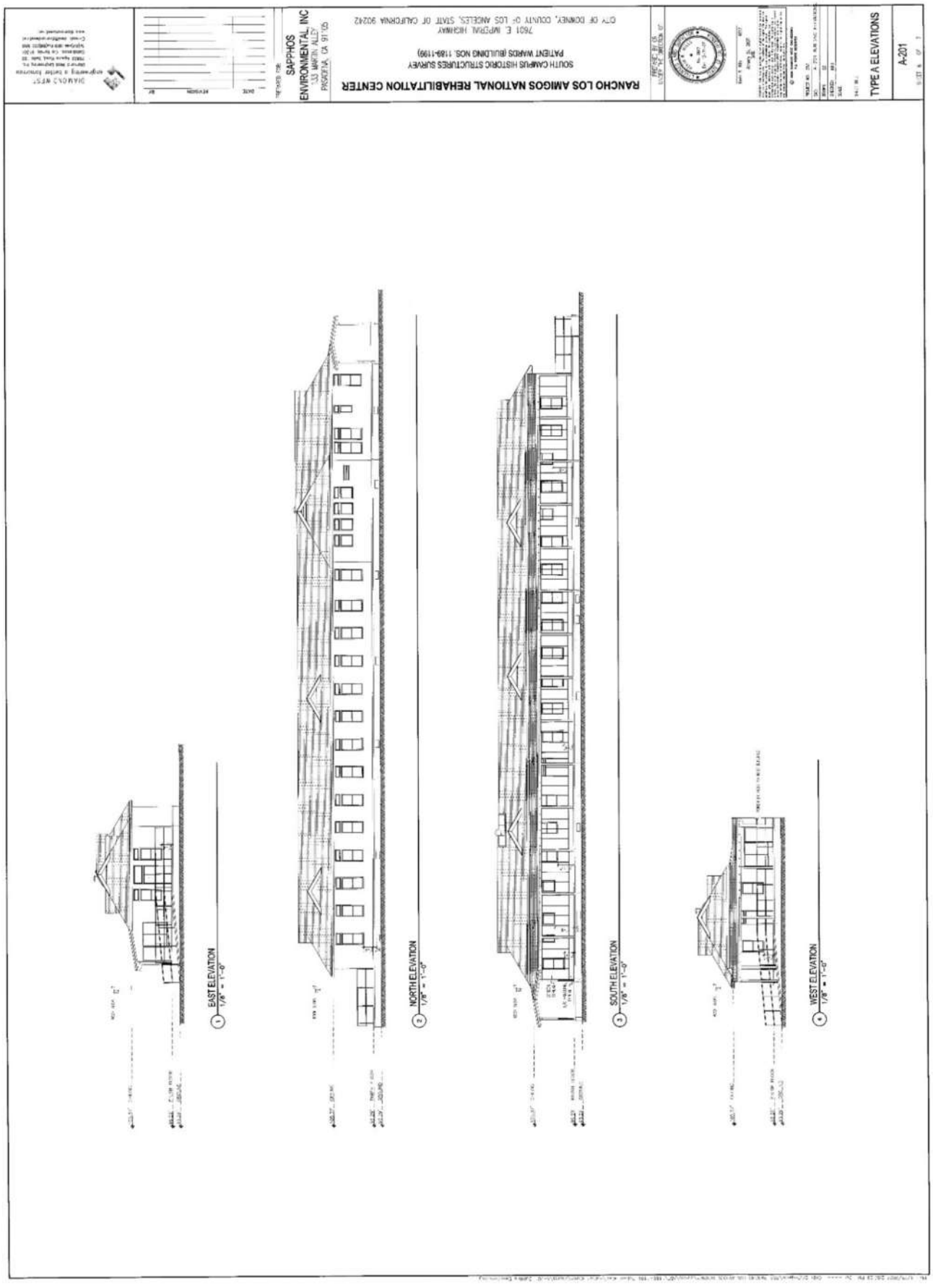
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **5,000 s.f. courtyard.** • **8 total for 40,000 s.f.**

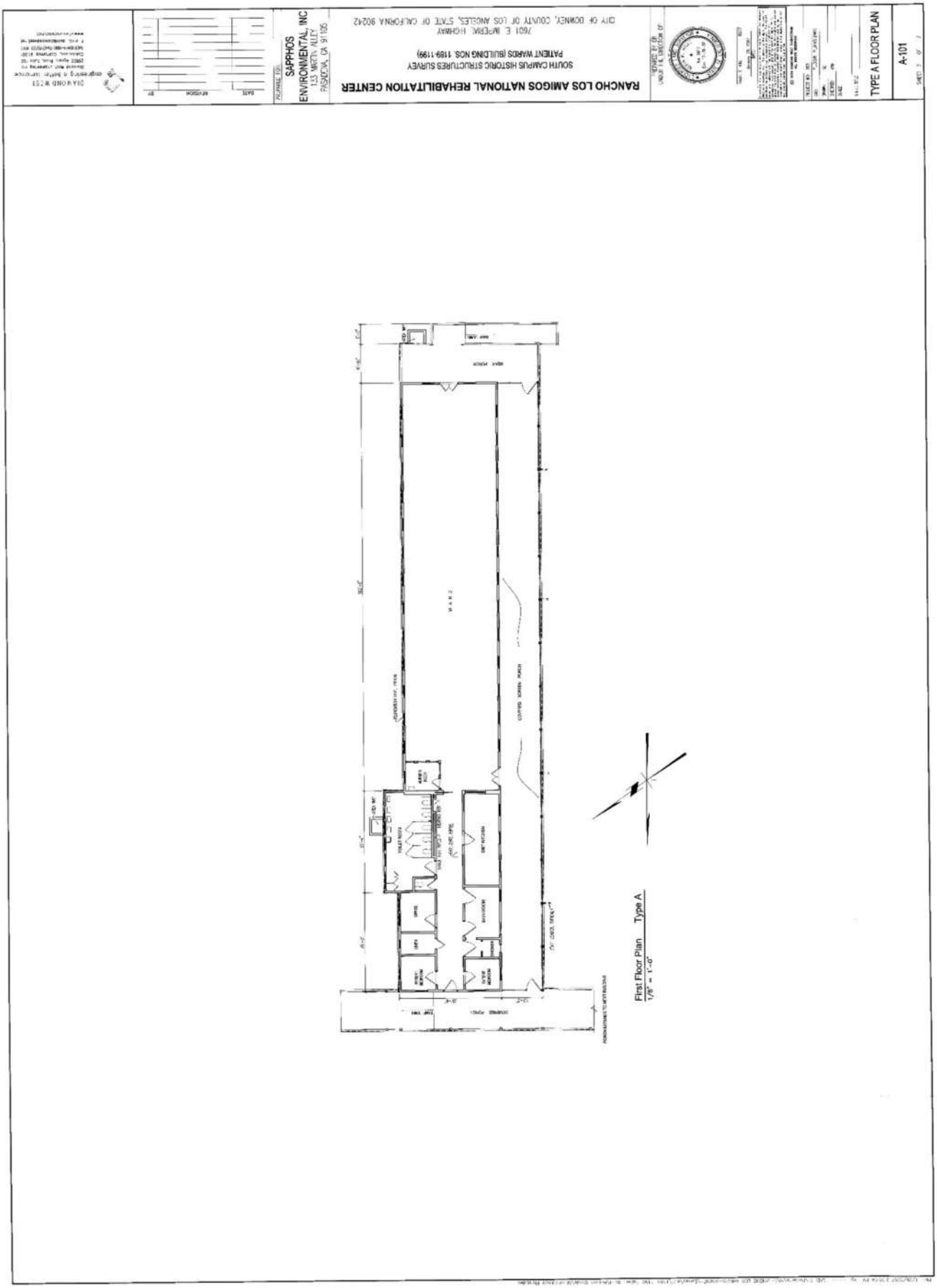
Interior Spaces

It is assumed that this 5,583 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Service Offices. In order to provide a contemporary working environment per County space requirements, it will be assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan may not directly follow current LA County office area standards which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and repair wood flooring throughout.	• **5,583 s.f.**
• **Walls –** Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **5,583 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 l.f.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	

• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restrooms-2 stalls, one sink per sex. 240 s.f. total.**
• **Electrical –** New 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in rear location and provide with new railings and new maximum slope of 8%.	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A ELEVATIONS
A-201
EAST ELEVATION
1/8" = 1'-0"
NORTH ELEVATION
1/8" = 1'-0"
SOUTH ELEVATION
1/8" = 1'-0"
WEST ELEVATION
1/8" = 1'-0"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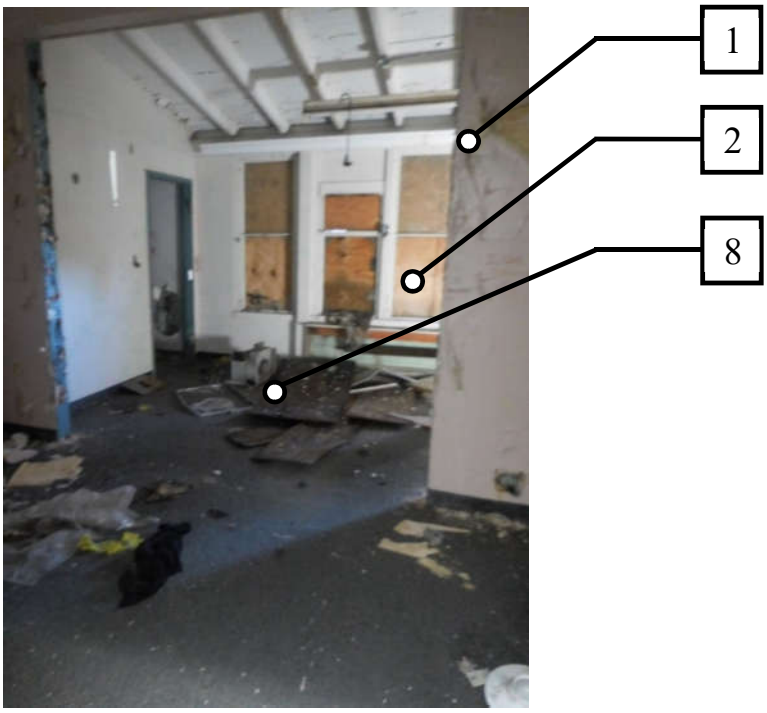
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A FLOOR PLAN
A-101
First Floor Plan Type A
1/8" = 1'-0"

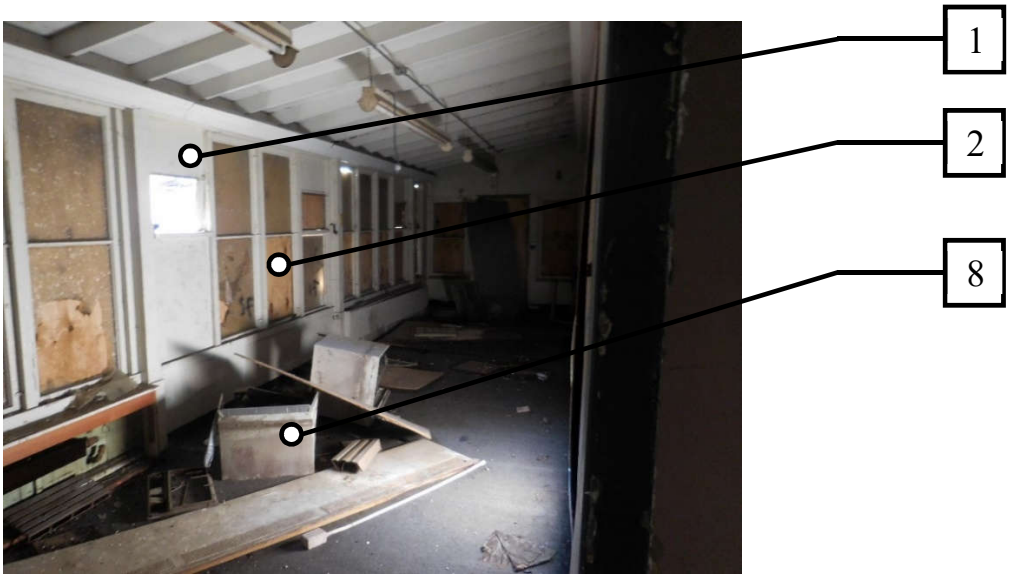
South Elevation with Veranda

Modified Main Entry Door

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.



Interior Condition, Enclosed Porch



Enclosed Porch

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.

B LACO No. 1192 (Patient Ward 204) – Structural Assessment Report

Structural Assessment: Patient Ward Building 204
(LACO NO. 1192)

Summary of Assessment
This building was constructed between 1923-1928, as part of a set of Patient Ward buildings. This report describes conditions representative of the entire set of buildings, and the suggested upgrades are recommended for the set as a whole. Some of the original plans were available for review. The Patient Ward buildings are single-story wood structures on concrete slabs and foundations with a 10-foot ceiling height. The walls are constructed of plaster over wood lath, a type of construction that is no longer used. The buildings contain numerous structural members that are deteriorated and may pose a threat to the buildings and their occupants in the event of a seismically induced ground movement.

This building is in poor condition. Deterioration and damage were observed throughout the structure, particularly in the roof framing and sheathing. Additionally, the building does not appear to have an adequate lateral-force-resisting system. Strengthening and new connections will be needed throughout the building, including at the roof, walls, foundation, and veranda. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this Patient Ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building
The typical building footprint is approximately 163 feet by 34 feet with the longer dimension running north-south. The gable roofing is composed of a shingle roof over ½-inch by 4-inch straight sheathing on 2 x 6 rafters at 24 inches on center. The roof rafters and ceiling joists are tied together with 2x web members to form field-constructed carpenter trusses at 24 inches on center.

The exterior walls around the main building supports are made of stucco plaster over metal lath on 2 x 4 wood studs. The interior walls are 2x wood stud walls with wood lath and plaster. The building has a raised wood floor consisting of wood framing with wood plank flooring. Water damage has likely deteriorated the floor framing in many areas, and a large portion of the framing will likely need to be replaced. The floor is supported on interior concrete pedestals and footings which create a 30-inch open crawl space. The exterior walls are supported by a continuous foundation.

Condition Assessment
The wood framing of these structures generally appears to be in poor condition. A large portion of existing wood elements may need replacement, repair, or strengthening. Deterioration of wood members exists in many areas where the floor, walls, and roof are exposed. Broken floor, wall, and roof sheathing was also observed in some places, as shown in Figure 1 through 4. There is some ceiling and wall damage due to water leaks; the wood members inside the ceiling and wall are likely damaged in these areas. The exposed rafters show a clear sign of decay, as seen in Figure 5[1]. Visual inspection revealed that some of the rafters are also heavily damaged. Figure 6 shows the deterioration of the external wall trim and paneling due to long-term exposure to the elements.

The ceilings are typically wood lath and plaster, which is heavy and subject to weakening due to prolonged moisture. Some rooms have ceiling tiles glued to drywall. Both types of ceiling pose a potential falling hazard, as the heavy plaster or the ceiling tiles could fall, cause injury, and block egress in a seismic event. In many areas, large portions

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

of ceiling or full tiles have already detached from the building. The ceilings should be completely removed and replaced.

Figure 7 shows major cracks found on the west side of one of the Patient Ward buildings. Moreover, reinforcement exposed by delamination of concrete was noticed at a porch foundation, as shown in Figure 8. The deterioration shown in these photos is typical for the set of buildings.

The veranda structure, which provides a walkway connecting the front entrances of all the Patient Ward buildings, also has signs of deterioration. The fascia at each side is completely deteriorated, as shown in Figure 9, and much of the wood framing for the veranda roof displays signs of dry rot, as shown in Figure 10. It is likely that 50 to 100% of the framing will need to be replaced. The veranda roof is supported on 6 x 6 wood posts on each side of the walkway. As seen in Figure 11, it is apparent that the posts have been exposed to severe weather conditions, and in some cases, are badly damaged at the base.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. The building's light-weight construction significantly reduces the forces and stresses induced on the building during an earthquake. This is likely the reason why the Patient Ward buildings appear to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, these buildings would be expected to perform below the life-safety standard. The existing roof and wall construction can withstand very little lateral force. In addition, the cripple wall below the floor will be subjected to a high amount of movement and shear stress.

Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

The cracks and delamination of concrete at the foundation are not expected to significantly compromise the integrity of the building. The concrete foundation appears to be in fair condition for a building of this age.

There are several concerns with the veranda at the south side of the buildings. The deterioration of the posts will likely continue, which could lead to partial collapse even without a seismic event. The posts are not positively connected to the roof or the foundation, as shown in Figure 12 and 13, which, in the event of an earthquake, could cause the structure to separate and may lead to collapse. Additionally, the veranda structure and the Patient Ward buildings will likely try to move independently from each other, but the veranda is currently attached to all buildings. This connection between the veranda and the buildings could lead to damaged roof framing and potential falling hazards and safety risks. A seismic separation should be added at each building (adding a new post adjacent to the separation to support the veranda roof as depicted in Figure 14), and the posts should be bolted to the roof and foundation.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be needed at every wall. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning

north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Add a series of cantilevered steel columns at the sun porch to vertically and laterally support the roof framing and maintain the character-defining full-height windows. The new cantilevered columns will require new concrete caisson footings.
- Steel shear panels or new plywood sheathing will need to be added to all exterior walls (other than the sun porch outer wall) and to all interior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new cripple wall supports and new shallow foundations.
- Add hold downs at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove (and replace) existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace deteriorated wood members (roof and wall framing) as needed.
- Install concrete pier supports as needed beneath interior bearing walls.
- Replace wood flooring where holes or damage occur.
- Remove and replace plaster ceilings and ceiling tiles.
- Repair floor where differential settlement has led to deformed or broken framing.
- Upgrade foundations throughout the building.

Veranda

- Replace the fascia.
- Replace any roof framing damaged by dry rot, termites, or other causes. It is likely that 40 to 80% of the framing will need to be replaced.
- Replace posts with steel cantilever columns (wrapped with wood finish). Provide bolted connections to foundation and veranda roof.
- Provide expansion joints in the veranda between buildings (See Figure 14).
    - Provide shoring to temporarily support the structure while joints are created.
    - Cut a joint across the width of the veranda roof and add a secondary post near the joint at the north side. Eight joints and new posts total are expected.
- Disconnect the existing handrails from the wood posts; provide new handrail support to slab or to new posts.

Figure 1: Damaged roof structure

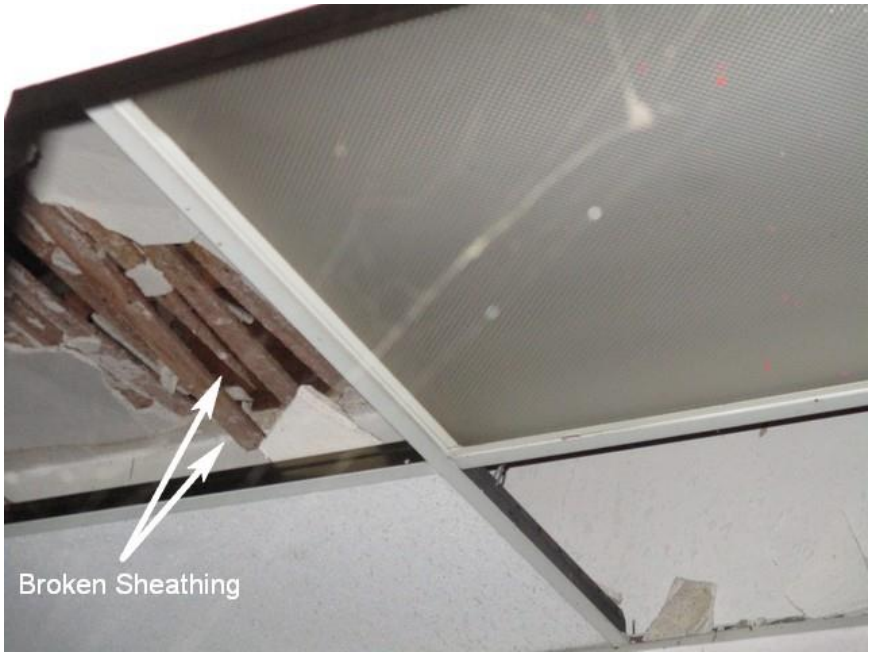


Figure 2: Fallen ceiling and damaged sheathing

Figure 3: Broken floor sheathing

Figure 4: Damaged wood lath and plaster wall (interior)

Figure 5: Decay of exposed rafters

Figure 6: Deterioration of exterior trim and paneling

Figure 7: Foundation cracks

Figure 8: Exposed rebar at crawl space

Figure 9: Fully deteriorated fascia at veranda

Figure 10: Deterioration and dry rot of veranda roof framing

Figure 11: Deteriorated post base

Figure 12: Lack of connection between post base and foundation

Figure 13: Lack of connection between post and roof framing

Figure 14: Recommended seismic joint upgrades at veranda

C LACO No. 1192 (Patient Ward 204) – Preservation/Adaptive Reuse Cost Plan

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Feasibility Study Cost Plan

Patient Ward 204 (LACO 1192)

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Feasibility Study Cost Plan — Patient Ward 204 (LACO 1192)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 204 (LACO 1192)		5,583	464.80	2,595
SUB-TOTAL BUILDING CONSTRUCTION			5,583	464.80	2,595
S1	Sitework		5,000	83.00	415
	Premium for enhanced sustainable site features				45
SUB-TOTAL SITEWORK					460
TOTAL BUILDING AND SITEWORK					**3,055**
Escalation to Midpoint (Jul 2021)		11.7%			356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			273
	Project Management Consultant Services	3.0%			111
	FF & E	5.8%			220
	Taxes and Indirect Fees	1.0%			40
	Building Permit and Other Agency Fees	1.5%			61
	Owner Contingency/Construction Contingency	25.0%			1,029
Recommended Budget					***5,145***

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Feasibility Study Cost Plan — Patient Ward 204 (LACO 1192) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,583		
TOTAL GROSS FLOOR AREA	**5,583**		**0**

Control Quantities				Ratio to GFA
Number of stories		1	EA	0.000
Gross Area		5,583	SF	1.000
Enclosed Area		5,583	SF	1.000
Covered Area		1,630	SF	0.292
Footprint Area		5,583	SF	1.000
Gross Wall Area		3,700	SF	0.663
Finished Wall Area		3,700	SF	0.663
Windows or Glazing	30%	1,100	SF	0.197
Roof Area - Sloping		6,200	SF	1.111
Roof Area - Total		6,200		1.111
Roof Glazing Area		50	SF	0.009
Interior Partitions		185	LF	0.033
Finished Area		5,583	SF	1.000

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Feasibility Study Cost Plan — Patient Ward 204 (LACO 1192) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,583 SF	
A10	Foundations		2%	10.00	56
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	56
B10	Superstructure		7%	34.16	191
B20	Exterior Enclosure		11%	48.84	273
B30	Roofing		5%	25.22	141
B	Shell		23%	108.23	604
C10	Interior Construction		2%	11.43	64
C20	Stairways		0%	0.00	0
C30	Interior Finishes		10%	45.85	256
C	Interiors		12%	57.28	320
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.58	109
D30	Heating, Ventilation & Air Cond.		10%	47.20	264
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		18%	81.43	455
D	Services		33%	155.21	867
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	19.61	110
E	Equipment & Furnishings		4%	19.61	110
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	13.66	76
F	Special Construction & Demolition		3%	13.66	76
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	363.99	2,032
Z10	Design Contingency	10.00%	8%	36.40	203
Z11	General Requirements	4.00%	3%	16.02	89
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	416.41	2,325
Z21	General Conditions	6.00%	5%	24.98	139
Z22	Bonds & Insurance	1.50%	1%	6.62	37
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.80	94
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	464.82	2,595
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	464.80	2,595

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Feasibility Study Cost Plan — Patient Ward 204 (LACO 1192)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				55,830
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	5,583	SF	10.00	55,830
A1030 Slab On Grade				
Remove/replace ramp including railings				*site*
				55,830
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				43,541
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 10%	600	SF	40.00	24,000
Lightweight concrete topping, 1 1/2"	5,583	SF	3.50	19,541
B1020 Roof Construction				147,200
Repair/replace deteriorated roof structure; allow 50%	3,100	SF	30.00	93,000
Strengthen wall and diaphragm connection, provide new roof sheathing	6,200	SF	8.50	52,700
Provide expansion joints between veranda and building	1	LS	1,500.00	1,500
				190,741

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				148,000
Strengthening of existing exterior walls; add shear panels both sides	3,700	SF	7.00	25,900
Weather barrier at exterior walls	3,700	SF	2.50	9,250
Plaster and repaint throughout exterior walls	3,700	SF	14.00	51,800
Plaster and paint throughout interior face of exterior walls	3,700	SF	13.00	48,100
Loose fill insulation	3,700	SF	3.50	12,950
Veranda				Sitework
B2020 Exterior Windows				115,500
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	825	SF	100.00	82,500
New windows similar kind, high performance glazing; allow 25%	275	SF	120.00	33,000
B2030 Exterior Doors				9,200
New exterior doors	4	EA	2,300.00	9,200
				272,700
B30 Roofing				
B3010 Roof Coverings				133,300
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	6,200	SF	21.50	133,300
B3020 Roof Openings				7,500
Repair existing skylight framing, allow for new glazing and sealant	50		150.00	7,500
				140,800
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				21,500
New wood doors including frames and hardware	10	EA	2,150.00	21,500
C1030 Fittings				30,332
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,583	SF	4.00	22,332
				63,832

C20 Stairways

				0

C30 Interior Finishes

C3010 Wall Finishes				21,500
Repair damaged wall plaster and repaint - interior partitions, allow 30%	1,100	SF	13.00	14,300
Ceramic wall tiles to toilets	400	SF	18.00	7,200
C3020 Floor Finishes				39,081
New floor finishes including base	5,583	SF	7.00	39,081
Repair existing flooring				n/a
C3030 Ceiling Finishes				195,405
New gypsum plaster ceiling	5,583	SF	35.00	195,405
				255,986

D10 Conveying Systems

				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				30,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	3,750.00	3,750
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				40,749
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,583	SF	2.00	11,166
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,583	SF	1.00	5,583
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,749
Surface water drainage				
Roof & overflow drains, < = 6"	5,583	SF	3.00	16,749
D2090 Other Plumbing Systems				5,583
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,583.00	5,583
				109,331

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				60,601
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	275	mbth	27.50	7,563
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,583	SF	1.50	8,375
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,583	SF	8.00	44,664
D3040 Distribution Systems				126,839
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,979	LB	12.00	83,745
Dampers	1	LS	8,374.50	8,375
Insulation	5,234	SF	4.50	23,553
Diffusers, registers and grilles	5,583	SF	2.00	11,166
D3050 Terminal & Package Units				40,583
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,583
D3060 Controls and Instrumentation				25,124
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,583	SF	4.50	25,124
D3070 Systems Testing & Balancing				8,375
Test and balance air systems	5,583	SF	1.50	8,375
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				263,521

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				39,081
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,583	SF	7.00	39,081
				39,081
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				105,666
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	35	kVA	975.00	34,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,583	SF	3.50	19,541
D5020 Lighting & Branch Wiring				223,320
User convenience power				
Panel board breakers, 120 V circuits	5,583	SF	2.00	11,166
Receptacles, including conduit and cable	5,583	SF	5.50	30,707
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,583	SF	27.50	153,533

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Feasibility Study Cost Plan — Patient Ward 204 (LACO 1192)

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,583	SF	5.00	27,915
D5030 Communications & Security				78,162
Telephone and communications				
Telephone/data - including conduit & cable	5,583	SF	6.50	36,290
WAP	5,583	SF	1.00	5,583
DAS - Emergency response & cellular	5,583	SF	4.00	22,332
Cable tray/wire-way/j-hooks	5,583	SF	1.00	5,583
Audiovisual rough-in	5,583	SF	1.50	8,375
D5090 Other Electrical Systems				47,456
Fire alarm systems	5,583	SF	4.50	25,124
Security - perimeter access control & CCTV surveillance	5,583	SF	4.00	22,332
				454,603

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				109,500
Cabinets, countertops shelving and millwork	100	LF	900.00	90,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	1,100	SF	15.00	16,500
Entrance mat				*n/a*
				109,500

MGAC

Feasibility Study Cost Plan — Patient Ward 204 (LACO 1192)

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				34,384
Selective demolition				
Exterior window	275	SF	5.00	1,375
Doors	14	EA	150.00	2,100
Shingled roofing including substrate/roof sheathing	6,200	SF	1.00	6,200
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,583	SF	3.00	16,749
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	3,720	SF	2.00	7,440
F2020 Hazardous Components Abatement				41,873
Hazmat abatement - allowance	5,583	SF	7.50	41,873
				76,257

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Patient Ward 204 (LACO 1192)				
Gross Site Area	10,600	SF		
Building footprint	5,583	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site Improvement				*230,130*
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	20.00	100,000
Premium for permeable paving	2,500	SF	13.00	32,500
Veranda including rear porch				
Replace wood columns with steel columns (wrapped with wood finish), provide bolted connections to foundation & roof	6	EA	1,200.00	7,200
Provide expansion joints between veranda and building	1	LS	2,500.00	2,500
Replace deteriorated roof framing; allow 60%	1,000	SF	13.00	13,000
Provide new handrail support	75	LF	125.00	9,375
Replace wood fascia	75	LF	30.00	2,250
New roof sheathing	1,630	SF	3.50	5,705
Remove/replace roof shingles including waterproofing membrane and flashing	1,630	SF	20.00	32,600
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Lighting	1	LS	10,000.00	10,000
Site Utilities including site lighting and drainage	5,000	SF	15.00	75,000
Alternate Cost Before Markups				**325,130**
Z10 Design Contingency	10.00%			32,513
Z11 General Requirements	4.00%			14,306
Z21 General Conditions	6.00%			22,317
Z22 Bonds & Insurance	1.50%			5,914
Z23 Contractor's Overhead, Profit & Fee	3.75%			15,007
Z30 See Overall Summary for Escalation	0.00%			
				415,186

D LACO No. 1192 (Patient Ward 204) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Patient Ward 204 #1192

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Patient Ward 204 (LACO #1192) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Patient Ward 204 #1192 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Patient Ward 204 (LACO #1192), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction*

		system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

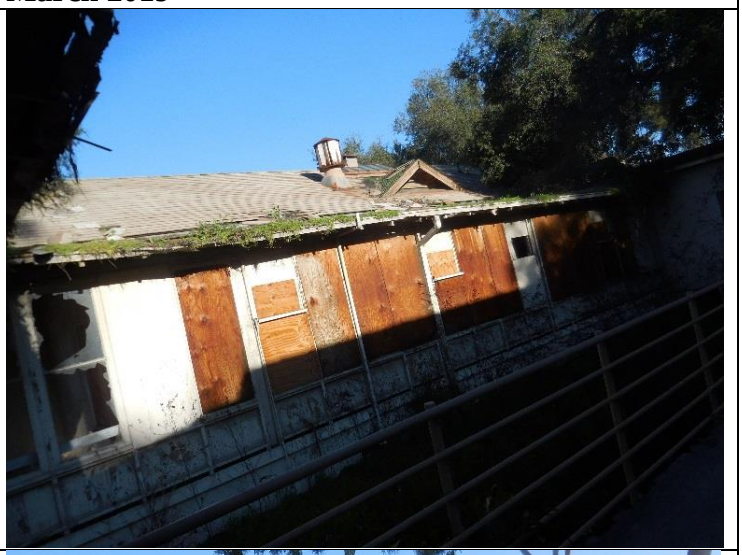
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally,*

		and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building.

		Refer to the recommendations for landscape maintenance above.
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Exterior eastern view with vandalized roof flashing	
2	Veranda on south elevation	

3	Interior condition	
4	Exterior entry at south elevation.	
5	Courtyard	

E LACO No. 1192 (Patient Ward 204) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Patient Ward 204 (LACO 1192)

MGAC

Mothballing Cost Plan — Patient Ward 204 (LACO 1192)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 204 (LACO 1192)		5,583	37.61	210
TOTAL BUILDING CONSTRUCTION			5,583	37.61	210
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**210**
Escalation to Midpoint (Jul 2021)		11.7%			24
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			5
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			25
Recommended Budget					***279***

MGAC

Mothballing Cost Plan — Patient Ward 204 (LACO 1192)

Item Description	Quantity	Unit	Rate	Total
1.) Patient Ward 204 (LACO 1192)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,583***	***SF***		
Gross Wall Area	***3,700***	***SF***		
Roof Area	***6,200***	***SF***		
Windows Area	***1,100***	***SF***		
Gross Site Area	***10,600***	***SF***		
Building footprint	***5,583***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	5,583	SF	1.50	8,375
Repaint exterior walls	3,700	SF	2.00	7,400
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	1,100	SF	25.00	27,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,700	SF	0.10	370
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,200	SF	15.00	93,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,583	SF	0.25	1,396
Install smoke & fire detectors including wiring	5,583	SF	1.00	5,583
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,583	SF	0.75	4,187
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**163,561**
Z10 Design Contingency	15.00%			24,534
Z11 General Requirements	3.00%			5,643
Z21 General Conditions	3.00%			5,812
Z22 Bonds & Insurance	1.50%			2,993
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,595
				210,138

Feasibility Study Reports for LACO No. 1203 (Women's Psychiatric Ward)

Primary Contributor

ESA

A LACO No. 1203 (Women's Psychiatric Ward) – Architectural Assessment Report

Women's Psychiatric Ward (LACO 1202)

22,927 s.f.
Built 1924
Secondary Contributor to Historic District

Building Description

Consisting of two buildings, the Women's Psychiatric Ward complex (LACO No. 1202) is located centrally in the block bounded by Golondrinas Street to the north, Erickson Avenue to the west, Dahlia Avenue to the east, and Consuelo Street to the south. The Women's Psychiatric Ward complex consists of two one-story brick vernacular style buildings, that was constructed in two stages; the first ward (LACO No. 1203) was built in 1919 and the second ward (LACO No. 1202) was built in 1924. The two buildings enclosed a large, interior courtyard. The overall quadrangle plans consist of two "H-shaped" ward buildings connected by one-story concrete block wall hyphens. The Women's Psychiatric Ward complex is symmetrical in appearance with horizontal massing. One story square projects bathroom wings surmounted by a hipped roof are located on the north and south elevations, and partial-width enclosed porches project from interior courtyard elevations. The exterior walls of both buildings in the complex are clad in painted brick laid in common bond pattern, with the exception of the west and north elevation of LACO No. 1203, which has replacement horizontal metal siding over the original brick walls. The roof configuration incorporates multiple medium-pitched hips and gable-on-hips with overhanging eaves; the roof is sheathed in composition shingles, with exposed beams and rafters that are visible underneath the eaves.

Gabled dormers with louvered vents project from the roof, and triangular vents are located in the gable ends. Galvanized iron skylights with wire glass are located just below the ridgeline on the north and south bathroom projections. Corbelled brick courses define the wall base and a cornice and frieze on the bathroom wings. Original windows (where extant) included four-over-four, double-hung sash windows; one-over-one light double-hung sash windows; one-light fixed windows; and four-over-four fixed windows. All windows are flat-headed and trimmed by slightly projecting header brick window sills. The primary entrance is centrally located on the west façade and is defined by partial-width porch with vertical posts supporting a front gable roof and a raised concrete walkway. Replacement metal windows are located throughout the building.[1]

Statement of Significance

The significance of LACO No. 1202 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort. Here it is important to

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1202),* prepared for the County of Los Angeles June 2, 2008.

note—for the sake of clarity—that at the time the DPR form was completed, the Women's Psychiatric Ward (LACO No. 1202) was described in conjunction with another nearly identical building—the Women's Psychiatric Ward (LACO No. 1203)—rather than treated as a separate entity as it is here for the purposes of the Feasibility Study. The DPR form described the significance of the property as follows:

> The Women's Psychiatric Wards (LACO Nos. 1202 and 1203) are significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The buildings were erected in 1919 and 1924 to house the mentally unstable female patients sent to the County Poor Farm by the Los Angeles County Hospital. The complex was built was during a large building imitative in the 1920s directed by the Poor Farm's most influential superintendent, William R. Harriman (1915-1931; 1933-1952). The first psychiatric facility at the Poor Farm was the Psychiatric Ward building, constructed in 1907 (now the Men's Psychiatric Ward (LACO No. 1205). This facility housed both males and females. The first ward exclusively for women mental patients was completed directly south of the men's ward in 1919. A second women's ward was completed in 1924, mirroring the original ward and enclosing a courtyard. The Women's Psychiatric Ward Complex was converted to office and storage space in the late-twentieth century. The buildings are no longer occupied but continue to be used for storage.
>
> Although the buildings have been somewhat altered, their exterior appearance still reflects its period of construction. An example of brick vernacular construction, the Women's Psychiatric Ward complex retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features, which include: one-story height, horizontal massing and double H-shaped, courtyard plan; medium-pitched, complex roof consisting of hipped and gable-on-hip sections, punctuated by gabled roof vents; rafters with rounded tails exposed in overhanging eaves; concrete foundation regularly pierced by vents; brick (painted) exterior walls laid in common bond; sill above the foundation composed of three raised brick courses; regular fenestration pattern of evenly spaced window openings with segmental arched heads; segmental arch door openings; attached porches at the entries on the west (primary) and east facades; projecting (enclosed) porch spaces facing the interior courtyard; and interior brick chimney on the east (rear).[2]

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1202),* prepared for the County of Los Angeles June 2, 2008.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has composed asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **23,000 s.f.**
• **Exterior walls –** Exterior masonry walls are damaged in minimal amount of areas.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **10 wood doors 3' x7'**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to	• **135 wood windows**

vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan as not character defining.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **22, 900 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, which have been severely damaged.	• **22,900 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace entire composition shingle roof, and, waterproof membrane. Replace existing plywood substructure and replace with new	• **23,000 s.f.**

substructure, batt insulation, waterproofing membrane and flashing.	
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **10- 3'x 7' exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **135 3'x 6' wood windows.** • **20% replaced in kind (28)**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard.	• **20,000 s.f. courtyard.**

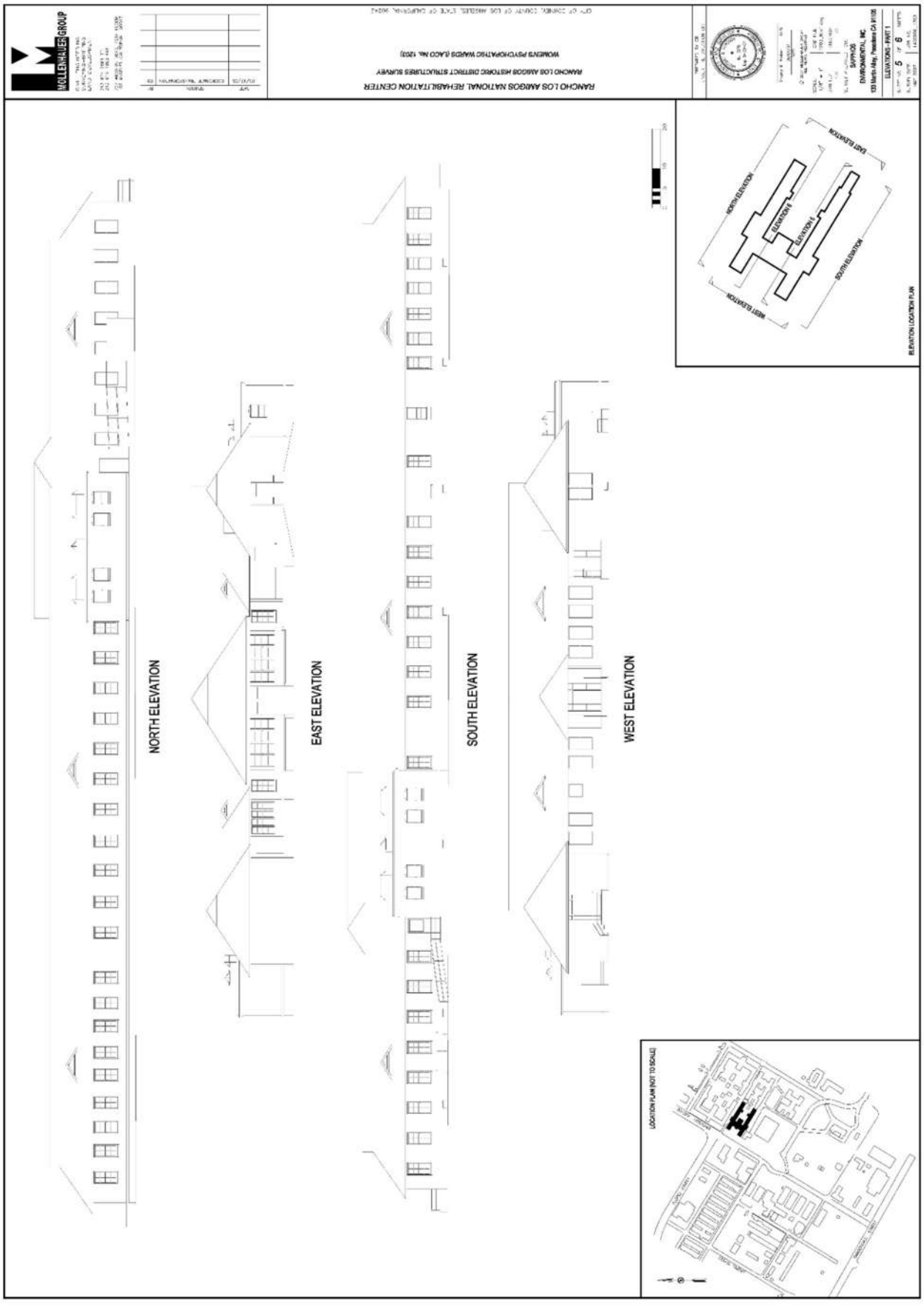
Interior Spaces

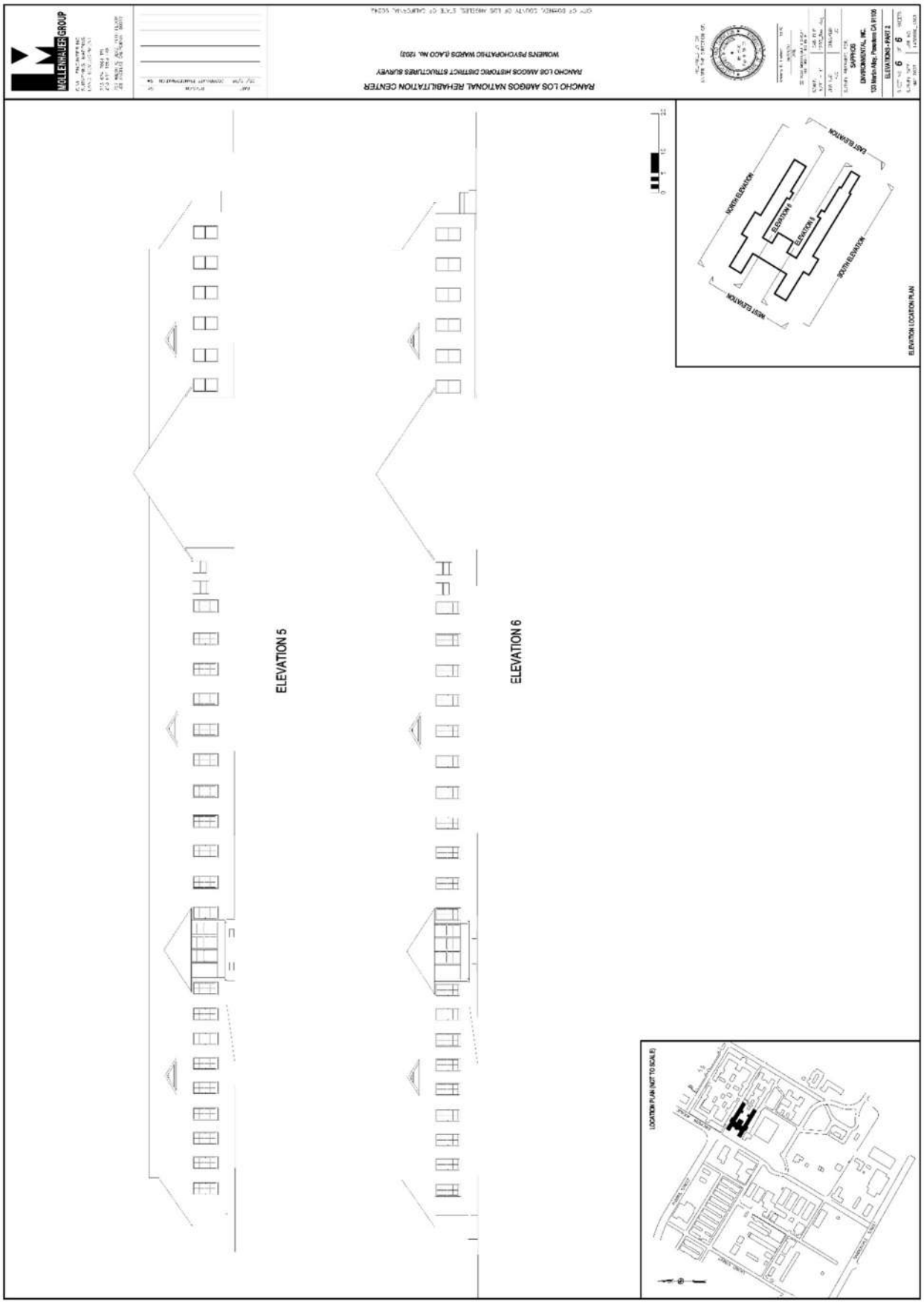
The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan no character defining.

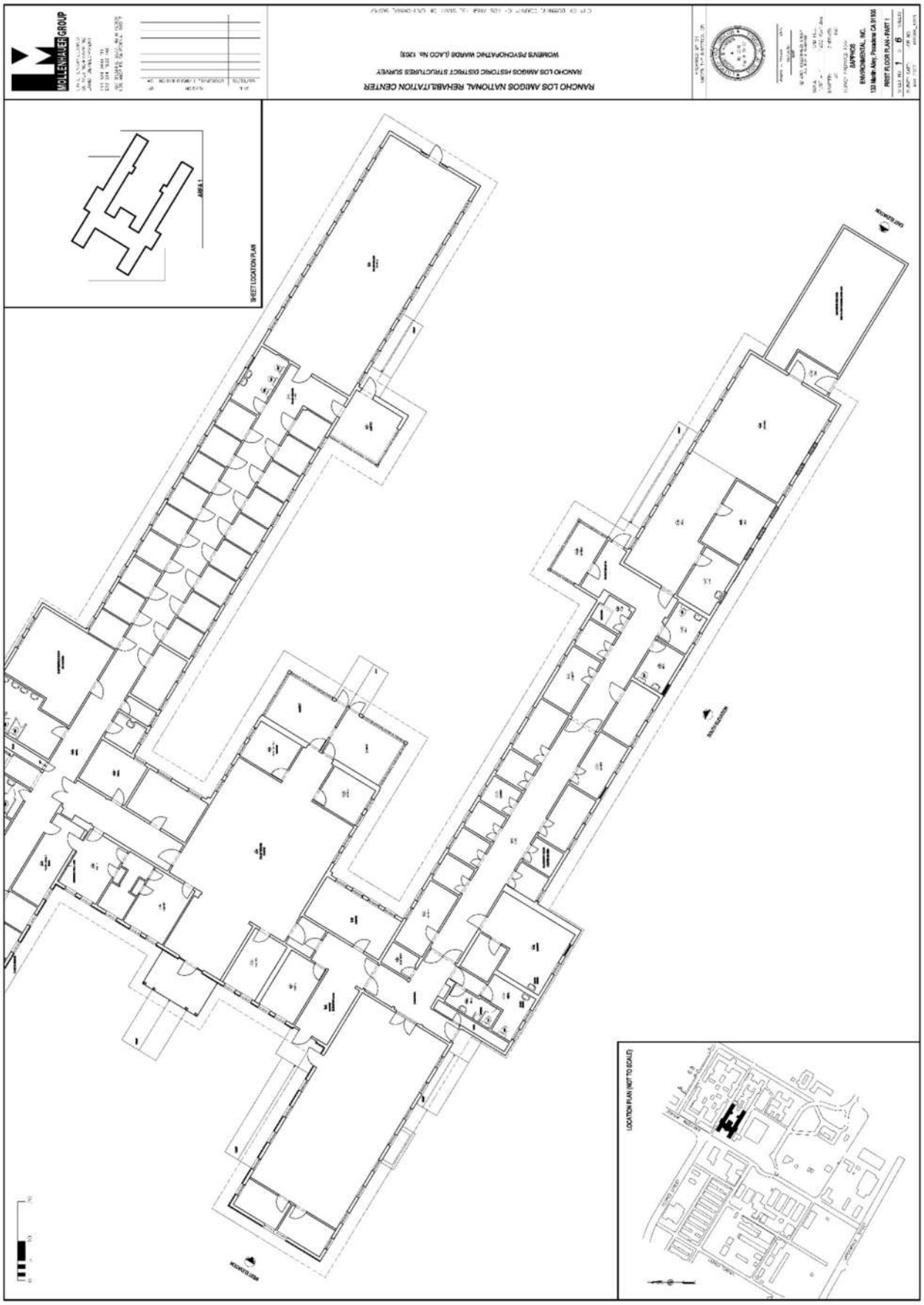
It is assumed that this 22,927 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Service Offices. In order to provide a contemporary working environment per County space requirements, it will be assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan may not directly follow current LA County office area standards which may need to be adjusted in order to accommodate building features.

• **Flooring –** Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **22,900 s.f.**
• **Walls –** Remove paint from masonry. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow Clay tile walls to be encapsulated with 4" 16 ga. Studs and gyp bd. Each side	

• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **22,900 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **200 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **2 restroom cores** • **600 s.f. 6 fixtures – 4 sinks.**
• **Electrical –** New 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in six (6) locations and provide with new railings and new maximum slope of 8%.	


NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
ELEVATION LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
WORKERS PSYCHOPATHIC WARDS (LADO No. 1203)
ELEVATION 5
ELEVATION 6
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
ELEVATION LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)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RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
WORKERS PSYCHOPATHIC WARDS (LADS No. 1353)
SHEET LOCATION PLAN
AREA 1
LOCATION PLAN (NOT TO SCALE)

North Elevation Ramp

North Elevation

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair or replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

Interior with non-significant suspended ceiling feature.

Interior Window View

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair and replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

Women's Psychiatric Ward (LACO 1203)

22,193 s.f.
Built 1919
Primary Contributor to Historic District

Building Description

Consisting of two buildings, the Women's Psychiatric Ward complex (LACO No. 1203) is located centrally in the block bounded by Golondrinas Street to the north, Erickson Avenue to the west, Dahlia Avenue to the east, and Consuelo Street to the south. The Women's Psychiatric Ward complex consists of two one-story brick vernacular style buildings, that was constructed in two stages; the first ward (LACO No. 1203) was built in 1919 and the second ward (LACO No. 1202) was built in 1924. The two buildings enclosed a large, interior courtyard. The overall quadrangle plans consist of two "H-shaped" ward buildings connected by one-story concrete block wall hyphens. The Women's Psychiatric Ward complex is symmetrical in appearance with horizontal massing. One story square projects bathroom wings surmounted by a hipped roof are located on the north and south elevations, and partial-width enclosed porches project from interior courtyard elevations. The exterior walls of both buildings in the complex are clad in painted brick laid in common bond pattern, with the exception of the west and north elevation of LACO No. 1203, which has replacement horizontal metal siding over the original brick walls. The roof configuration incorporates multiple medium-pitched hips and gable-on-hips with overhanging eaves; the roof is sheathed in composition shingles, with exposed beams and rafters that are visible underneath the eaves.

Gabled dormers with louvered vents project from the roof, and triangular vents are located in the gable ends. Galvanized iron skylights with wire glass are located just below the ridgeline on the north and south bathroom projections. Corbelled brick courses define the wall base and a cornice and frieze on the bathroom wings. Original windows (where extant) included four-over-four, double-hung sash windows; one-over-one light double-hung sash windows; one-light fixed windows; and four-over-four fixed windows. All windows are flat-headed and trimmed by slightly projecting header brick window sills. The primary entrance is centrally located on the west façade and is defined by partial-width porch with vertical posts supporting a front gable roof and a raised concrete walkway. Replacement metal windows are located throughout the building.[1]

Statement of Significance

The significance of LACO No. 1203 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort. Here it is important to

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1203),* prepared for the County of Los Angeles June 2, 2008.

note—for the sake of clarity—that at the time the DPR form was completed, the Women's Psychiatric Ward (LACO No. 1203) was described in conjunction with another nearly identical building—the Women's Psychiatric Ward (LACO No. 1202)—rather than treated as a separate entity as it is here for the purposes of the Feasibility Study. The DPR form described the significance of the property as follows:

> The Women's Psychiatric Wards (LACO Nos. 1202 and 1203) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The buildings were erected in 1919 and 1924 to house the mentally unstable female patients sent to the County Poor Farm by the Los Angeles County Hospital. The complex was built was during a large building imitative in the 1920s directed by the Poor Farm's most influential superintendent, William R. Harriman (1915-1931; 1933-1952). The first psychiatric facility at the Poor Farm was the Psychiatric Ward building, constructed in 1907 (now the Men's Psychiatric Ward (LACO No. 1205). This facility housed both males and females. The first ward exclusively for women mental patients was completed directly south of the men's ward in 1919. A second women's ward was completed in 1924, mirroring the original ward and enclosing a courtyard. The Women's Psychiatric Ward Complex was converted to office and storage space in the late-twentieth century. The buildings are no longer occupied but continue to be used for storage.
>
> Although the buildings have been somewhat altered, their exterior appearance still reflects its period of construction. An example of brick vernacular construction, the Women's Psychiatric Ward complex retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features, which include: one-story height, horizontal massing and double H-shaped, courtyard plan; medium-pitched, complex roof consisting of hipped and gable-on-hip sections, punctuated by gabled roof vents; rafters with rounded tails exposed in overhanging eaves; concrete foundation regularly pierced by vents; brick (painted) exterior walls laid in common bond; sill above the foundation composed of three raised brick courses; regular fenestration pattern of evenly spaced window openings with segmental arched heads; segmental arch door openings; attached porches at the entries on the west (primary) and east facades; projecting (enclosed) porch spaces facing the interior courtyard; and interior brick chimney on the east (rear).[2]

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1203),* prepared for the County of Los Angeles June 2, 2008.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Exterior walls –** Exterior masonry walls are damaged in minimal amount of areas.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **10 wood doors - 3'x7'**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **135 wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining. The original porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **22,100 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **22,100 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace entire composition shingle roof, and, waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **23,000 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer	

recommended installation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **135 3'x 6' wood windows.** • **20% replaced in kind (28)**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **20,000 s.f. courtyard.**

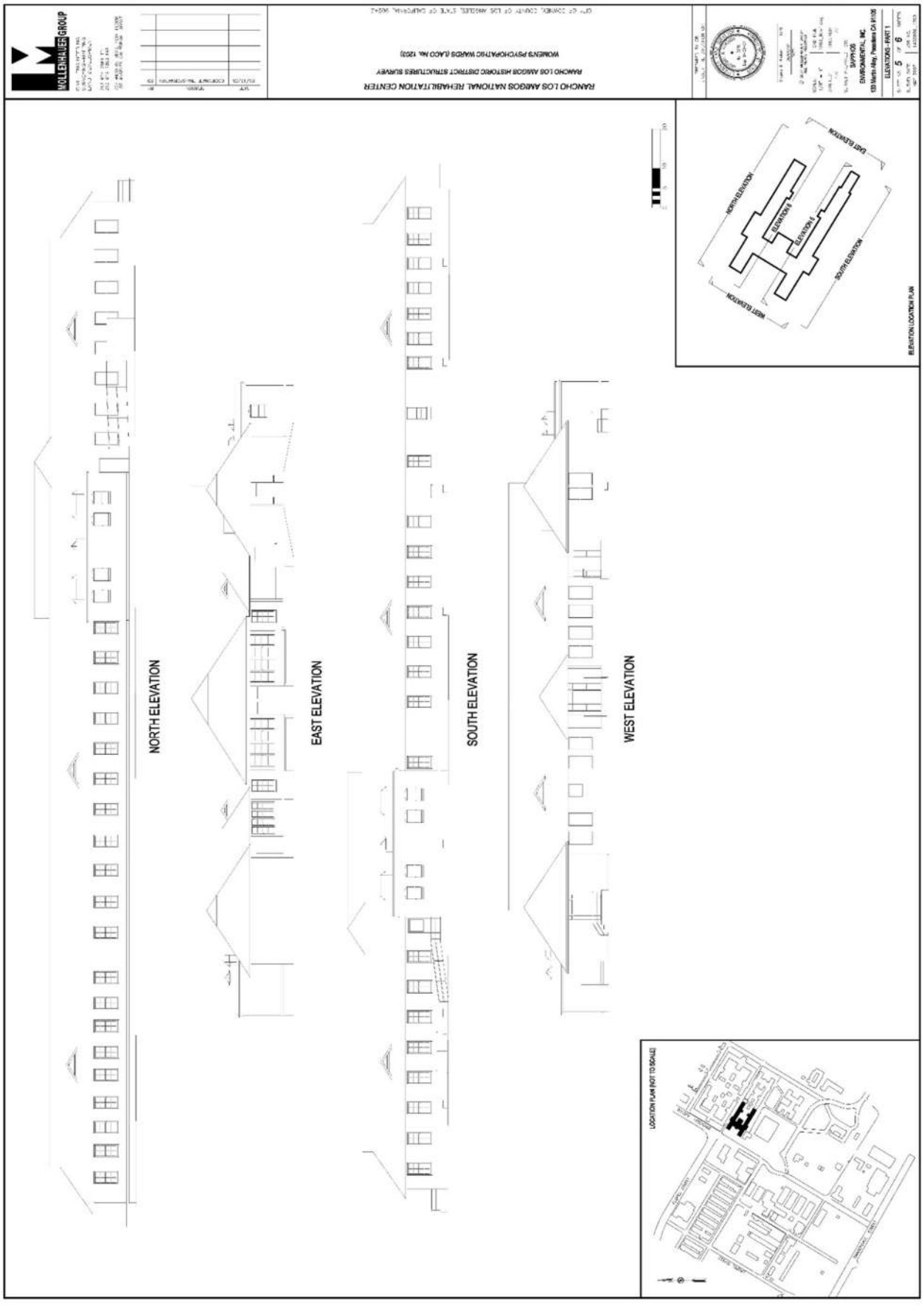
Interior Spaces

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan no character defining.

It is assumed that this 22,193 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Service Offices. In order to provide a contemporary working environment per County space requirements, it will be assumed that 75%of the existing layout will be demolished and the rest of the area converted into open office space. The new plan may not directly follow current LA County office area standards which may need to be adjusted to accommodate building features.

• **Flooring –** Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **22,297.f.**
• **Walls –** Remove paint from masonry. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards.All Hollow clay tile walls are to be encapsulated with 4" 16"ga. studs and gyp bd. each side.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	

• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **22,297 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **200 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **2 restroom cores 600 s.f. total, 6 fixtures, 4 sinks.**
• **Electrical –** New 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	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EAST ELEVATION
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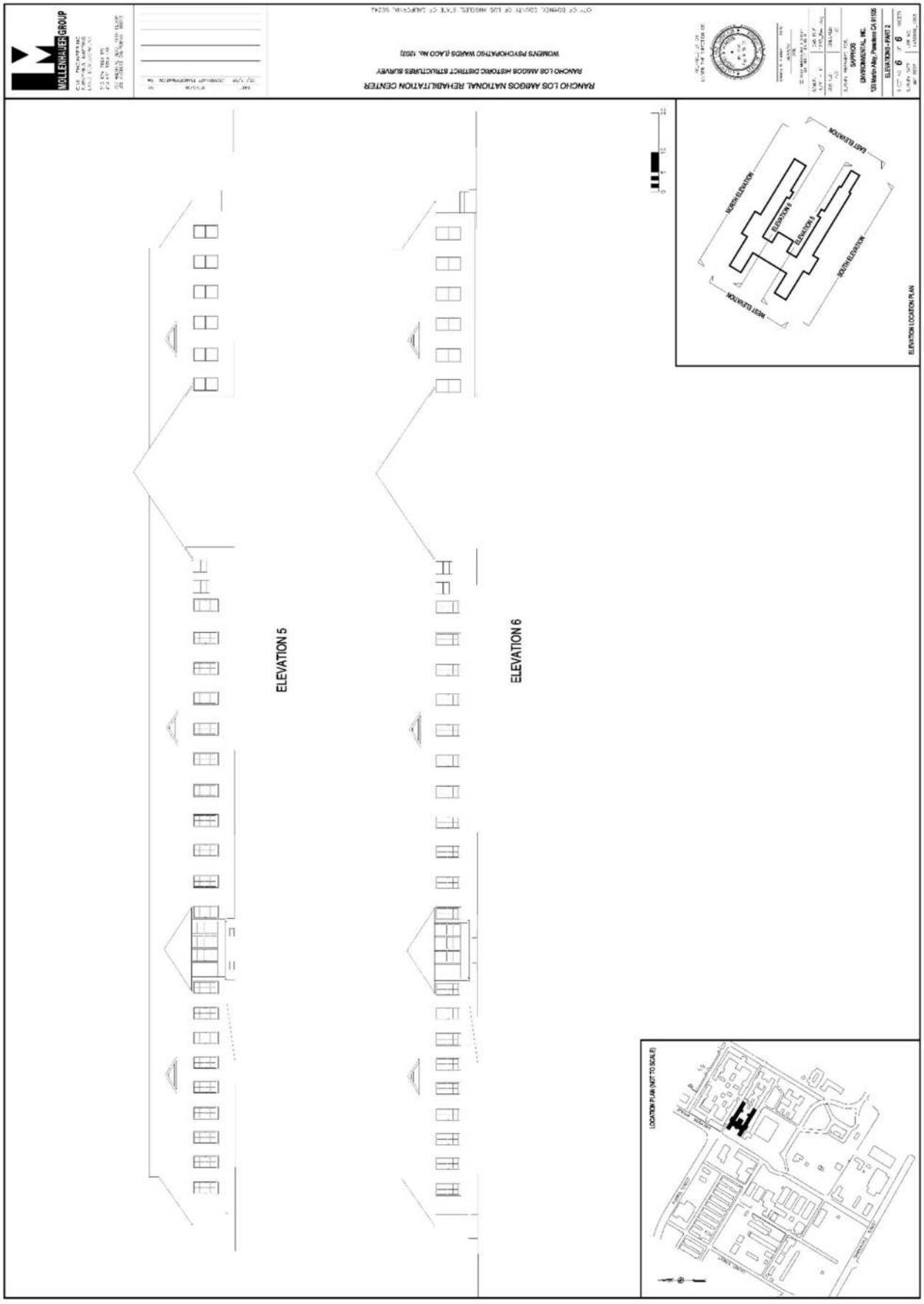
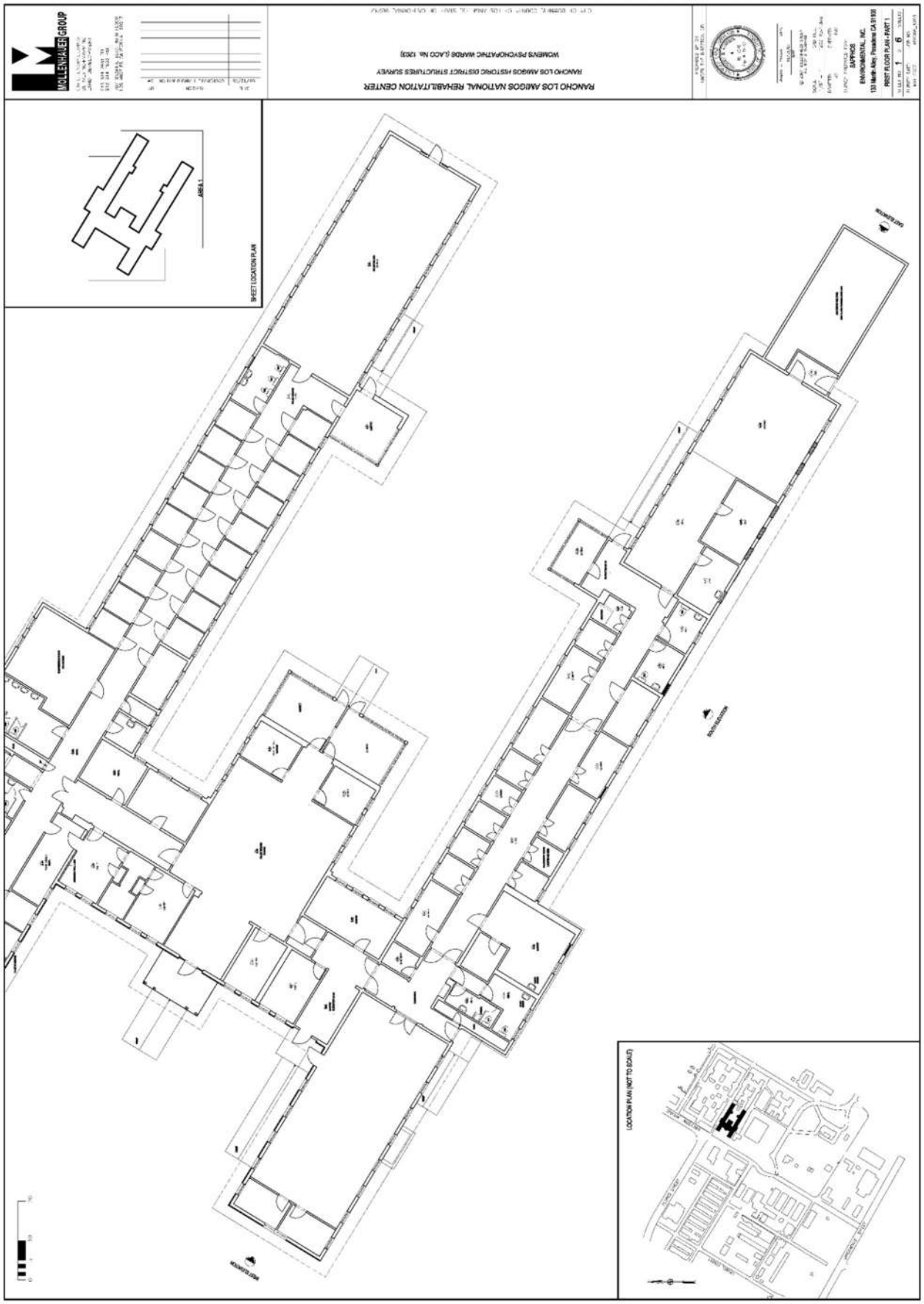
LOCATION PLAN (NOT TO SCALE)


ELEVATION 5
ELEVATION 6
LOCATION PLAN (NOT TO SCALE)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RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
WOMENS PSYCHOPATHIC WARDS (LACO No. 1263)
SHEET LOCATION PLAN
AREA 1
FIRST FLOOR PLAN - PART 1
SAPHOS ENVIRONMENTAL, INC.
(LOCATION PLAN (NOT TO SCALE))

Northwest Corner

Courtyard

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair or replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

Interior

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair and replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

B LACO No. 1203 (Women's Psychiatric Ward) – Structural Assessment Report

Structural Assessment: Women's Psychiatric Ward
(LACO NO. 1203)

Summary of Assessment

The Women's Psychiatric Ward (LACO No. 1203) is a "U"-shaped building with a total square footage of approximately 22,193 square feet. The south wing of the building connects to LACO No. 1202. The two buildings are nearly identical; all structural systems and many conditions observed in either building are assumed to be representative of both buildings. LACO No. 1203 has a wood roof system supported by unreinforced brick masonry walls. Wood rafters and trusses are used to support the straight sheathed roof system. The building is in poor condition with evidence of water damage and possible fire damage in addition to damage associated with the age of the building and other factors. Cracking and deterioration of building materials were noted throughout the structure.

The expected seismic performance of this building in its current condition is poor. The building does not have significant lateral force resisting capacity. Additionally, the structural components are not properly connected to resist a moderate earthquake. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Women's Psychiatric Ward has brick masonry exterior walls supporting a wood roof. The interior walls appear to be a mix of hollow clay tile (HCT) walls and unreinforced masonry walls. Many of these walls are expected to be bearing and/or shear walls. Some metal stud interior walls were also found, which would have been added to the building years after the original construction. The north and south exterior walls have windows every few feet along the entire length of wall (Figure 1). The wood roof system, shown in Figure 2 and Figure 3, consists of shingles over straight sheathing over wood framing. The typical framing consists of wood trusses spaced approximately 4 feet on center. The building is raised on concrete stem walls.

Condition Assessment

The Women's Psychiatric Ward building is in poor condition. The roof framing does not provide adequate anchorage for the walls. The straight board roof sheathing appears in good condition, though it will need to be replaced or supplemented to accommodate wall anchorage forces. There are no additional wall anchors at the embedded roof rafters. In many areas, as shown in Figure 4, the roof shingles have fallen; this may have exposed the roof framing and caused water damage and/or rot, similar to the damage shown in Figure 5. In areas of the building with plaster ceilings, portions of the ceiling have fallen, and deterioration of the metal lath is visible (Figure 6). A section of roof collapse, shown in Figure 7, is expected to be due to water damage. The ceiling is deteriorated, a beam is broken, and wood sheathing has fallen. Plaster ceilings should be removed and replaced to prevent falling hazards.

Many interior walls are severely damaged, with large sections of wall torn out and broken studs, tiles, or bricks in the remaining sections (Figure 8 and Figure 9). The adjacent building, LACO No. 1202, shows signs of significant fire damage. While visible fire damage was minimal in LACO No. 1203, it is expected that the structure may also have significant fire damage due to its proximity. The hollow clay tile (HCT) walls found throughout the building are extremely brittle and generally not suitable for shear or bearing walls. Additionally, HCT walls are known to be a high-risk potential falling hazard; the walls are likely to collapse, break into many pieces, and obstruct egress. It is highly recommended that all hollow clay tile walls be removed and replaced. If there is a strong desire to leave non-bearing HCT walls in place, new heavy metal stud walls may be installed on both sides of the HCT wall to encapsulate the wall and mitigate the potential falling hazard. The unreinforced brick masonry walls are similarly unsuitable for shear resistance and present a potential falling hazard. These walls should be strengthened or replaced, and measures should be taken to ensure bricks do not fall, causing injury or blocking egress.

Many of the bricks have chipped and spalled at the exterior wall faces (Figure 10). The grout in these brick walls is also deteriorating (Figure 11). The foundation stem walls appeared to be in good condition when observed in 2007; they were not accessible during the most recent observations. However, some localized cracking was observed at the exterior (Figure 12) and, in general, the foundations for the structure are minimal and will likely need to be strengthened.

The connection of this building (LACO No. 1203) to LACO No. 1202 poses a potential risk for damage to both structures if they are not separated. The buildings will attempt to move independently of each other in the case of a seismic event, and this could cause cracking and significant damage where the connection occurs. This damage can lead to loss of gravity support and obstruction of egress (if pieces of the structure fall into the path of egress), threatening the safety of any occupants of the building. It is recommended that seismic joints be installed between the two buildings at both the north and south connections to mitigate potential damage and life-safety concerns.

Evaluation of Structural Performance

The building plan is irregular in shape, which is a source of concentration of stress. The masonry has deteriorated significantly, a sign of a loss of strength in the material. The main positive aspect of this building's design is its light roof, which means lower shear stress during an earthquake. However, in general, unreinforced brick masonry structures tend to perform very poorly during moderate earthquakes. This building type is no longer allowed in new construction due to its historically poor earthquake performance. Though the building performed well in previous regional earthquakes, the walls still present a significant potential falling hazard and are not likely to perform well in a closer or more severe earthquake. The age of this building and its lack of significant lateral design are associated with a possible risk of partial or total collapse in the event of a moderate earthquake.

The roof of this building is capable of resisting lateral forces, but its strength may not be sufficient. Further analysis would need to be done to determine the required strength of the diaphragm. The connection of the roof to the walls, as well as the ties and collectors, are likely not sufficient to transfer forces across the building.

It appears that all existing interior walls that are to remain need to be replaced or strengthened. The metal stud walls are damaged; the hollow clay tile walls and unreinforced masonry walls present a falling hazard and do not have sufficient lateral strength. If many new interior walls are added to the building layout to create additional office space, this will increase the weight of the building and may require additional strengthening of the overall structure, including its foundation.

If the interior walls are to be reconfigured to allow for a different use of the space, the expected structural performance of the building will be affected. An extensive structural analysis will be required, though it is very likely that new concrete shear walls will need to be added throughout the building to provide supplemental lateral resistance. Depending on the layout and placement of new walls and removal of old walls, a revised interior wall layout can provide a highly increased structural performance to the building. This is due to the superiority of current design and construction methods compared to the existing construction. New foundations would also have to be added below any new shear or bearing wall locations.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the masonry walls. Strengthening will likely be needed on every wall, on the majority of the wall's surface area. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced masonry walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the shotcrete. 100% of the existing masonry walls will need shotcrete or another strengthening method.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be partially covered by a network of steel tube framing.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient for providing protection of character-defining features and increasing performance and strength compared to the other methods.
- Interior brick walls that are to remain should be strengthened with shotcrete, FRP, and/or strongbacks as described above.
- If any interior brick masonry walls are to be removed, new concrete shear walls should be added throughout the building to supplement the lateral support system. Extensive structural analysis would be required to determine where new walls must be placed, in any rearrangement of the structural layout. New concrete shear walls may be required even if no existing walls are removed.
- All new walls must be connected to the existing diaphragm and floor by post-installed epoxy anchors and steel connectors.
- New continuous concrete footings will be required at all new concrete walls. The walls should be doweled into the footings.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in case of damage or collapse.
- Install seismic joints between LACO No. 1203 and LACO No. 1202 where the buildings are connected (north and south walls). Further analysis will be required to determine the size of the gap at the seismic joint; it is expected to be several inches.

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors will likely need to be installed four feet on center.
- Install additional steel connectors as needed.
- Add cross ties, collectors, and additional strengthening hardware as needed to complete load path.
- Check the connection of the trusses to the perimeter walls. Strengthen as needed.

General Condition

- Repair and/or replace all deteriorated masonry. Patch and grout any areas (in masonry or concrete) where spalling and cracking has occurred.
- Repair the eroded grout (mortar) at masonry walls. It is expected that approximately 15-40% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building may need to be repointed.
- Replace deteriorated and insufficient wood members with new members.
- Strengthen the foundations and stem walls of the building. This process should include shoring and excavating localized sections to install the footings. This should be repeated along all load bearing walls and underneath load bearing posts.
- Where small sections of wood framed construction exist, install structural plywood or metal siding on a few walls in each principal direction. The amount of siding needed and the number of walls affected will be determined through an in-depth analysis. Reinstall any character-defining original coverings over top of new plywood if necessary.
- Remove and replace plaster ceilings.

Figure 1: North elevation of Women's Psychiatric Ward, LACO No.1203

Figure 2: Typical roof framing trusses

Figure 3: Roof sheathing

Figure 4: Typical roof damage

Figure 5: Damaged and deteriorated exterior framing

Figure 6: Fallen and deteriorated plaster ceiling

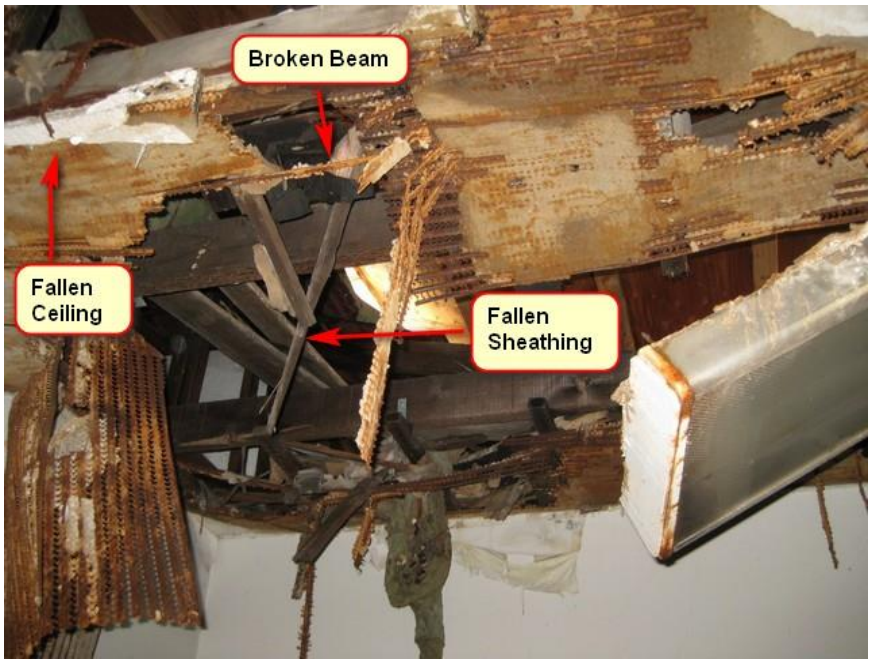

Figure 7: Roof collapse, likely due to water damage

Figure 8: Damaged hollow clay tile interior wall

Figure 9: Damaged interior masonry wall (unreinforced masonry)

Figure 10: Chipped and broken exterior masonry

Figure 11: Deterioration of grout and masonry at exterior wall

Figure 12: Cracking at concrete foundation

Figure 13: North side connection of LACO Nos. 1202 and 1203

C LACO No. 1203 (Women's Psychiatric Ward) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Women's Psychiatric Ward (LACO 1203)

Feasibility Study Cost Plan — Women's Psychiatric Ward (LACO 1203)

			SF	$/SF	TOTAL $ x 1,000
B1	Women's Psychiatric Ward (LACO 1203)		22,193	456.68	10,135
SUB-TOTAL BUILDING CONSTRUCTION			22,193	456.68	10,135
S1	Sitework		20,000	66.10	1,322
	Premium for enhanced sustainable site features				172
SUB-TOTAL SITEWORK					1,494
TOTAL BUILDING AND SITEWORK					**11,629**
Escalation to Midpoint (Jul 2021)		11.7%			1,356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			1,039
	Project Management Consultant Services	3.0%			421
	FF & E	5.8%			838
	Taxes and Indirect Fees	1.0%			153
	Building Permit and Other Agency Fees	1.5%			232
	Owner Contingency/Construction Contingency	25.0%			3,917
Recommended Budget					***19,585***

MGAC

Feasibility Study Cost Plan — Women's Psychiatric Ward (LACO 1203) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	22,193		
TOTAL GROSS FLOOR AREA	**22,193**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.000
Gross Area		22,193	SF	1.000
Enclosed Area		22,193	SF	1.000
Covered Area		0	SF	-
Footprint Area		22,193	SF	1.000
Gross Wall Area		18,500	SF	0.834
Finished Wall Area		18,500	SF	0.834
Windows or Glazing	13%	2,430	SF	0.109
Roof Area - Sloping		23,000	SF	1.036
Roof Area - Total		23,000	SF	1.036
Roof Glazing Area		0	SF	-
Interior Partitions		920	LF	0.041
Finished Area		22,193	SF	1.000

MGAC

Feasibility Study Cost Plan — Women's Psychiatric Ward (LACO 1203) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	22,193 SF	
A10	Foundations		4%	17.03	378
A20	Basement Construction		0%	0.00	0
A	Substructure		4%	17.03	378
B10	Superstructure		9%	42.67	947
B20	Exterior Enclosure		5%	23.05	512
B30	Roofing		5%	22.28	495
B	Shell		19%	88.01	1,953
C10	Interior Construction		4%	19.23	427
C20	Stairways		0%	0.00	0
C30	Interior Finishes		14%	62.21	1,381
C	Interiors		18%	81.45	1,808
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	16.55	367
D30	Heating, Ventilation & Air Cond.		10%	46.98	1,043
D40	Fire Protection		2%	7.00	155
D50	Elect'l Lighting, Power & Comm.		16%	72.81	1,616
D	Services		31%	143.34	3,181
E10	Equipment		0%	0.00	0
E20	Furnishings		3%	13.46	299
E	Equipment & Furnishings		3%	13.46	299
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	14.35	319
F	Special Construction & Demolition		3%	14.35	319
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	357.64	7,937
Z10	Design Contingency	10.00%	8%	35.76	794
Z11	General Requirements	4.00%	3%	15.74	349
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	409.14	9,080
Z21	General Conditions	6.00%	5%	24.55	545
Z22	Bonds & Insurance	1.50%	1%	6.51	144
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.51	366
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	456.70	10,135
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	456.68	10,135

MGAC

Feasibility Study Cost Plan — Women's Psychiatric Ward (LACO 1203)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				110,965
Foundation upgrade	22,193	SF	5.00	110,965
A1030 Slab On Grade				267,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	8,900	SF	30.00	267,000
Remove/replace ramp including railings				*site*
				377,965
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				740,000
Allow shotcrete interior face of exterior walls	18,500	SF	40.00	740,000
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				207,000
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	23,000	SF	9.00	*207,000*
				947,000
B20 Exterior Enclosure				
B2010 Exterior Walls				226,625
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	18,500	SF	8.00	148,000
Painting to exterior walls	18,500	SF	3.00	55,500

	Quantity	Unit	Rate	Total
Loose fill insulation				*n/a*
Painting to interior face of exterior walls (shotcrete area)	18,500	SF	1.25	*23,125*
B2020 Exterior Windows				253,000
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	1,930	SF	100.00	193,000
New windows similar kind, high performance glazing; allow 20%	500	SF	120.00	60,000
B2030 Exterior Doors				32,000
Solid core wood doors including frames and hardware				
Single leaf	9	EA	3,000.00	27,000
Double leaf	1	EA	5,000.00	5,000
				511,625
B30 Roofing				
B3010 Roof Coverings				494,500
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	23,000	SF	21.50	494,500
B3020 Roof Openings				
				494,500
C10 Interior Construction				
C1010 Partitions				212,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	3,500	SF	40.00	140,000
Glazed partitions	900	SF	80.00	72,000
C1020 Interior Doors				102,088
New wood doors including frames and hardware (1/500SF)	44	EA	2,300.00	102,088

	Quantity	Unit	Rate	Total
C1030 Fittings				112,772
Prefabricated toilet compartment and accessories	12	EA	2,000.00	24,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	22,193	SF	4.00	88,772
				426,860
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				257,040
Repair damaged wall plaster and repaint - interior partitions	18,400	SF	10.00	184,000
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
Enhance wall finishes	1	LS	50,000.00	50,000
C3020 Floor Finishes				221,930
New floor finishes including base	22,193	SF	10.00	221,930
Existing flooring to remain, allow for cleaning				n/a
C3030 Ceiling Finishes				901,755
New gypsum plaster ceiling on wood lathe	22,193	SF	35.00	776,755
Allowance for lightcoves and bulkheads	1	LS	125,000.00	125,000
				1,380,725
D10 Conveying Systems				
				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				48,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	24	EA	2,000.00	48,000
D2020 Domestic Water Distribution				92,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	4	EA	2,500.00	10,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	24	EA	3,000.00	72,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	10,000.00	10,000
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				138,579
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	22,193	SF	2.00	44,386
Condensate drainage pipework, fittings, < = 1-1/2", insulated	22,193	SF	1.00	22,193
Waste, vent, fittings, < = 6"	24	EA	3,000.00	72,000
D2040 Rain Water Drainage				66,579
Surface water drainage				
Roof & overflow drains, < = 6"	22,193	SF	3.00	66,579
D2090 Other Plumbing Systems				22,193
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	22,193	SF	1.00	22,193
				367,351

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				238,334
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	1,000	mbth	27.50	27,500
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	22,193	SF	1.50	33,290
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	22,193	SF	8.00	177,544
D3040 Distribution Systems				503,908
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	27,741	LB	12.00	332,895
Dampers	1	LS	33,000.00	33,000
Insulation	20,806	SF	4.50	93,627
Diffusers, registers and grilles	22,193	SF	2.00	44,386
D3050 Terminal & Package Units				162,193
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	22	EA	1,000.00	22,193
D3060 Controls and Instrumentation				99,869
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	22,193	SF	4.50	99,869
D3070 Systems Testing & Balancing				33,290
Test and balance air systems	22,193	SF	1.50	33,290
D3090 Other HVAC Systems & Equipment				5,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	5,000.00	5,000
				1,042,592

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				155,351
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	22,193	SF	7.00	155,351
				155,351
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				228,801
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,200	AM	65.00	78,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	22,193	SF	3.50	77,676
D5020 Lighting & Branch Wiring				887,720
User convenience power				
Panel board breakers, 120 V circuits	22,193	SF	2.00	44,386
Receptacles, including conduit and cable	22,193	SF	5.50	122,062
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	22,193	SF	27.50	610,308

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	22,193	SF	5.00	110,965
D5030 Communications & Security				310,702
Telephone and communications				
Telephone/data - including conduit & cable	22,193	SF	6.50	144,255
WAP	22,193	SF	1.00	22,193
DAS - Emergency response & cellular	22,193	SF	4.00	88,772
Cable tray/wire-way/j-hooks	22,193	SF	1.00	22,193
Audiovisual rough-in	22,193	SF	1.50	33,290
D5090 Other Electrical Systems				188,641
Fire alarm systems	22,193	SF	4.50	99,869
Security - perimeter access control & CCTV surveillance	22,193	SF	4.00	88,772
				1,615,863

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				298,650
Cabinets, countertops shelving and millwork	200	LF	1,200.00	240,000
Lavatory countertop	24	LF	300.00	7,200
Window treatment, mechoshade, manual	2,430	SF	15.00	36,450
Entrance mat	1	LS	15,000.00	15,000
				298,650

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				152,090
Selective demolition				
Demo/remove portion of slab on grade	8,900	SF	3.00	26,700
Exterior window	500	SF	5.00	2,500
Doors	53	EA	150.00	8,008
Shingled roofing including roof sheathing	23,000	SF	1.00	23,000
Demo/remove 75% of existing partitions	10,400	SF	3.00	31,200
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	22,193	SF	2.50	55,483
Allow for clearing/removal of storage debris	80	MH	65.00	5,200
F2020 Hazardous Components Abatement				166,448
Hazmat abatement - allowance	22,193	SF	7.50	166,448
				318,538

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Women's Psychiatric Ward (LACO 1203)				
Gross Site Area	42,200	SF		
Building footprint	22,193	SF		
Net Site Area	20,000	SF		
General site clearing, demo and remove paving/landscaping	20,000	SF	4.00	80,000
Site paving, site structures, fencing, landscaping & irrigation	20,000	SF	25.00	500,000
Premium for permeable paving	10,000	SF	13.00	130,000
Remove/replace ramp including railings	6	EA	7,500.00	45,000
Site lighting and drainage	20,000	SF	4.00	80,000
Site Utilities	20,000	SF	10.00	200,000
Alternate Cost Before Markups				**1,035,000**
Z10 Design Contingency	10.00%			103,500
Z11 General Requirements	4.00%			45,540
Z21 General Conditions	6.00%			71,042
Z22 Bonds & Insurance	1.50%			18,826
Z23 Contractor's Overhead, Profit & Fee	3.75%			47,772
Z30 See Overall Summary for Escalation	0.00%			
				1,321,680

D LACO No. 1203 (Women's Psychiatric Ward) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Women's Psychiatric Ward #1203

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Women's Psychiatric Ward (LACO #1203) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Women's Psychiatric Ward #1203 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Women's Psychiatric Ward (LACO #1203), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction*

		system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

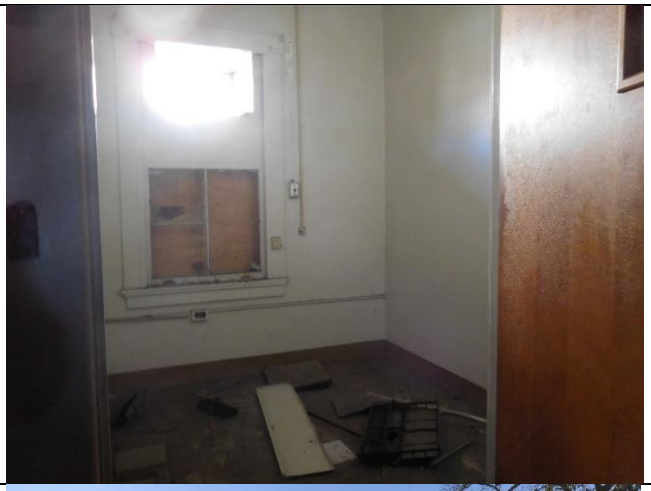
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally,*

		and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building.

		Refer to the recommendations for landscape maintenance above.
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly)	• regular drive by surveillance

	minimum	• check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Building interior	
2	North elevation	
3	Courtyard North side.	

E LACO No. 1203 (Women's Psychiatric Ward) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Women's Psychiatric Ward (LACO 1203)

Project No:E6130.110

Mothballing Cost Plan — Women's Psychiatric Ward (LACO 1203)

			SF	$/SF	TOTAL $ x 1,000
B1	Women's Psychiatric Ward (LACO 1203)		22,193	31.95	709
TOTAL BUILDING CONSTRUCTION			22,193	31.95	709
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**709**
Escalation to Midpoint (Jul 2021)		11.7%			83
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			32
	Project Management Consultant Services	2.0%			16
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			8
	Building Permit and Other Agency Fees	1.5%			13
	Owner Contingency/Construction Contingency	10.0%			86
Recommended Budget					***947***

MGAC

Mothballing Cost Plan — Women's Psychiatric Ward (LACO 1203)

Item Description	Quantity	Unit	Rate	Total
1.) Women's Psychiatric Ward (LACO 1203)				
No of floors	***1***	***EA***		
Gross Floor Area	***22,193***	***SF***		
Gross Wall Area	***18,500***	***SF***		
Roof Area	***23,000***	***SF***		
Windows Area	***2,430***	***SF***		
Gross Site Area	***42,900***	***SF***		
Building footprint	***22,927***	***SF***		
Net Site Area	***20,000***	***SF***		
Stabilized structure	22,193	SF	1.50	33,290
Repaint exterior walls	18,500	SF	2.00	37,000
Protect existing openings (exterior doors)	10	EA	800.00	8,000
Install hard protection/boarding to windows	2,430	SF	25.00	60,750
Seal all openings to eliminate small animals and pests from entering and nesting in the building	18,500	SF	0.10	1,850
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	23,000	SF	15.00	345,000
Termites, ants, rodents etc - inspection and allowance for treatment	22,193	SF	0.25	5,548
Install smoke & fire detectors including wiring	22,193	SF	1.00	22,193
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	8	EA	275.00	2,200
Remove debris and broom clean	22,193	SF	0.75	16,645
Clear site of weeds and overgrown trees	20,000	SF	0.50	10,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**551,976**
Z10 Design Contingency	15.00%			82,796
Z11 General Requirements	3.00%			19,043
Z21 General Conditions	3.00%			19,614
Z22 Bonds & Insurance	1.50%			10,101
Z23 Contractor's Overhead, Profit & Fee	3.75%			25,632
				709,163

Feasibility Study Reports for LACO No. 1205 (Men's Psychiatric Ward)

Primary Contributor

ESA

A LACO No. 1205 (Men's Psychiatric Ward) – Architectural Assessment Report

Men's Psychiatric Ward (LACO 1204)

28,917 s.f.
Secondary Contributor to Historic District

Building Description

Consisting of two "U-shaped" buildings that enclosed a rectangular, central courtyard, the Men's Psychiatric Ward Complex (LACO No. 1204) occupies the north half of the block bounded by Golondrinas Street to the north, and Dahlia Avenue to the east. Mostly one-story in height, the wards present a nearly symmetrical appearance on their primary, west and east elevations. A medium-pitched, hipped and hip-on-gable roof, punctuated by front-gabled vents, caps the building, with rafters that are exposed in the overhanging eaves. Galvanized iron skylights with wire glass and interior chimneys are located just below and on the roof ridgeline. Two-story, flat-roofed pavilions are offset to the west on the north and south elevations. The exterior walls are brick, laid in common bond pattern and painted with horizontal metal siding that has been installed over the brick on the west half of the complex. Attached, hip-roof porches project towards the street on the west and east elevations and contain the primary entrances. Window and door openings are defined by segmental arch heads articulated by triple courses of brick headers. Original windows, where extant, are wood-framed and include four-over-four, double-hung sash windows; one-over-one, double-hung sash windows; one-light fixed windows.

All windows are flat-headed and trimmed by slightly raised header sills. Additional entrances are located within the interior courtyard. Courtyard projections contain sunrooms. Elevated concrete walkways and ramps provide access to secondary and courtyard entries. Segmented arched door openings with triple header bands frame extant original wood doors and replacement metal doors. The complex is in fair condition and its windows and doors have been boarded with plywood. The structure has been seriously damaged by fire on the southeast portion of the building with only the masonry walls and foundation remaining.[1]

Statement of Significance

The significance of LACO No. 1204 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> The Men's Psychiatric Ward (LACO No. 1204) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The Men's Psychiatric Ward Complex was erected in several stages from 1907 to 1924. The oldest part of the complex, LACO No. 1205 on the west, initially

[1] 1, Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1204),* prepared for the County of Los Angeles June 2, 2008.

housed both male and female "psychopathic wards." Initially constructed to house mentally unstable patients transferred from the County Hospital, the facility eventually was considered one of the outstanding psychiatric ward faculties in the State of California. It provided ward space and medical care for hundreds of Los Angeles County patients for many years until the facility was closed in the late twentieth century, and the buildings converted to offices and storage. The buildings are currently abandoned.

Although the complex has been somewhat altered, its exterior appearance still reflects its period of construction. An example of brick vernacular styling, the building retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features, including: horizontal massing and overall symmetry of design; courtyard plan; one- and two-story height; brick exterior walls; hipped and gable-on-hip roof; segmental arched window and door openings with triple header bands; raised and corbelled brick courses defining belt courses; and attached entry porches. Its setting has been altered through the deterioration of the surrounding landscape.[2]

Fire damaged portion of structure as viewed from Courtyard.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Men's Psychiatric Ward (LACO No. 1204),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has asbestos shingles over cedar shakes with overhanging eaves. Substantial portion of the roof is missing due to fire damage. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	**29,000 s.f.**
• **Exterior walls –** Masonry and exterior plaster is damaged in approximately 50% of the structure.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **18 wood doors**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **143 wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Approximately 20,000 s.f. of the structure no longer remain dur to fire damage. Multiple remodels have rendered most of the remaining interior plan as non-character defining.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **28,900 s.f.**

• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **10,000 remaining s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace entire asbestos and shake roofs and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing. Damaged roof will need to be rebuilt including any structural framing, wall reconstruction, and foundation upgrade.	• **31,000 s.f. total** • **Rebuild approximately 20,000 s.f. and roof structure**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **18 exterior 3' x 7' wood doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **143 wood windows** • **20 % replace in kind (29)**

Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **50,000 sf. courtyard.**

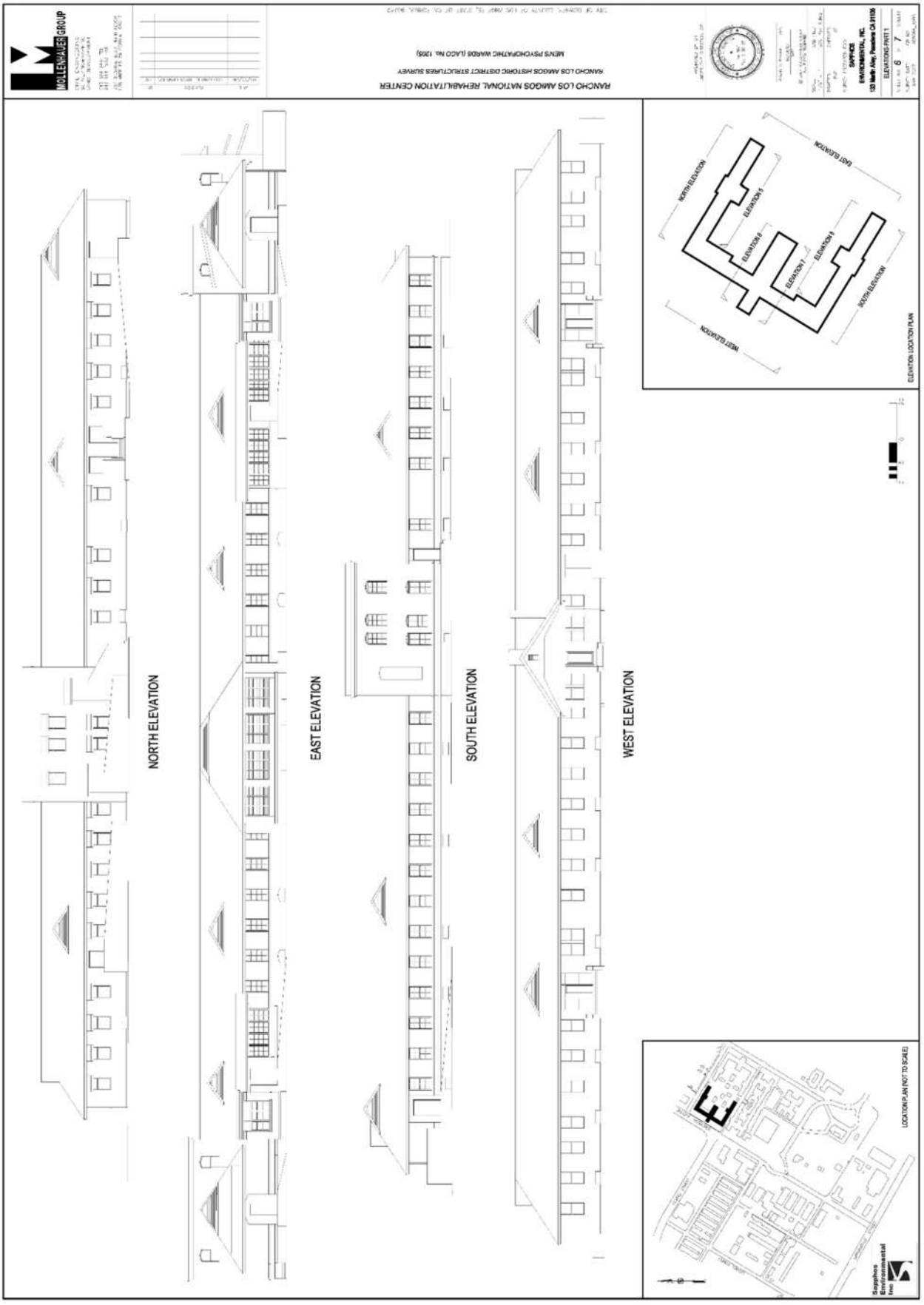
Interior Spaces

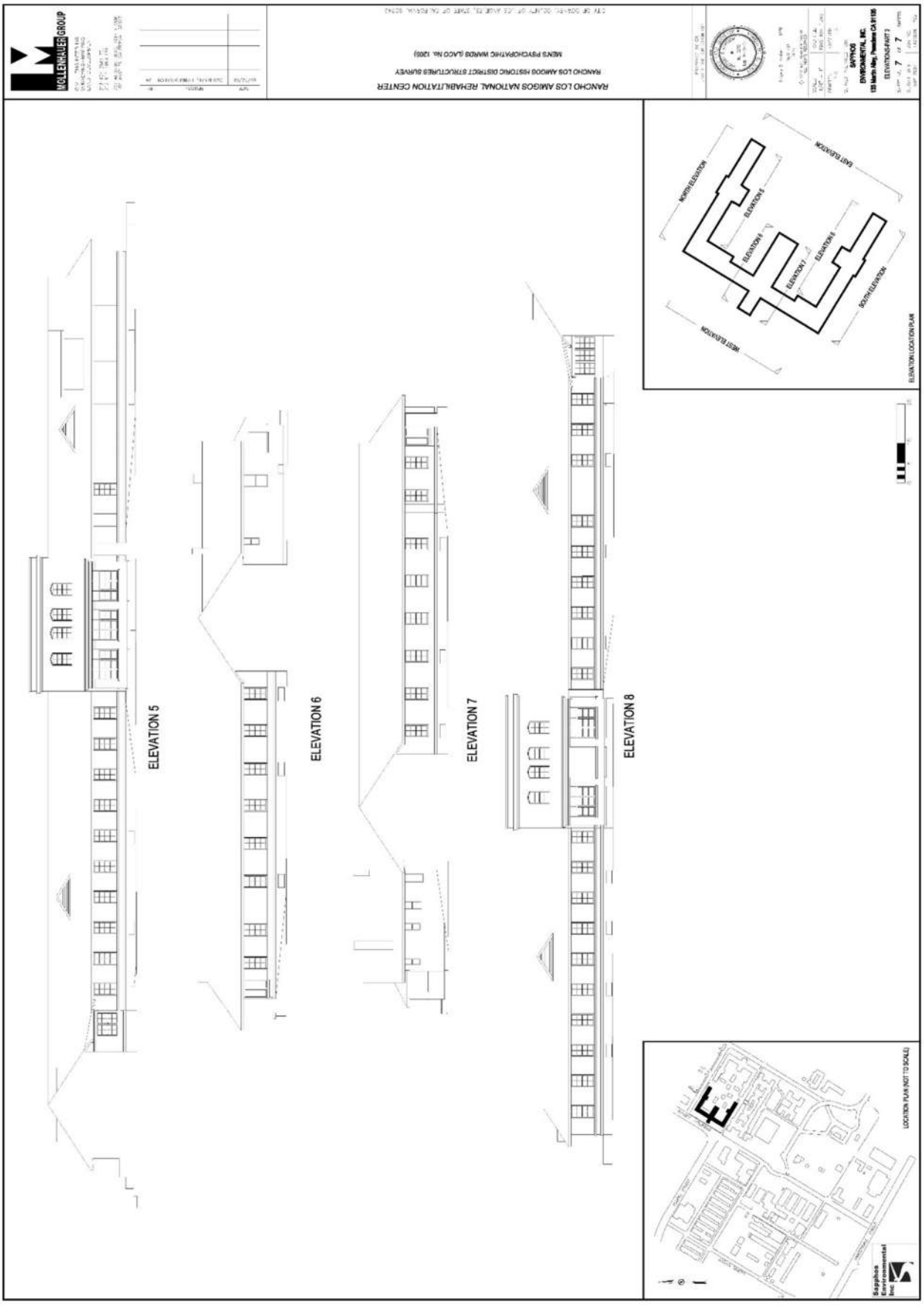
The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan non character defining.

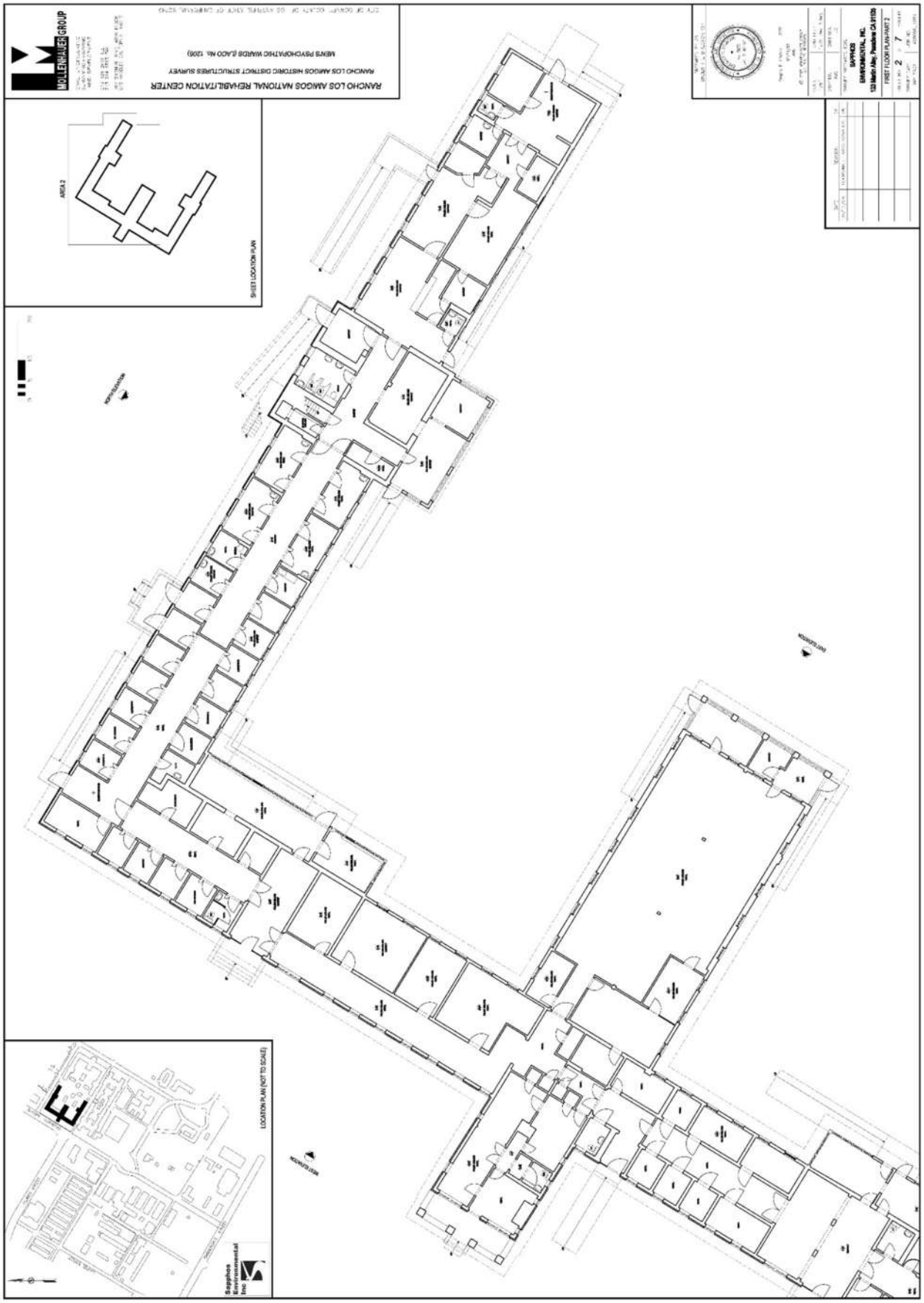
It is assumed that this 28,917 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Service Offices. In order to provide a contemporary working environment per County space requirements, it will be assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan may not directly follow current LA County office area standards which may need to be adjusted to accommodate building features.

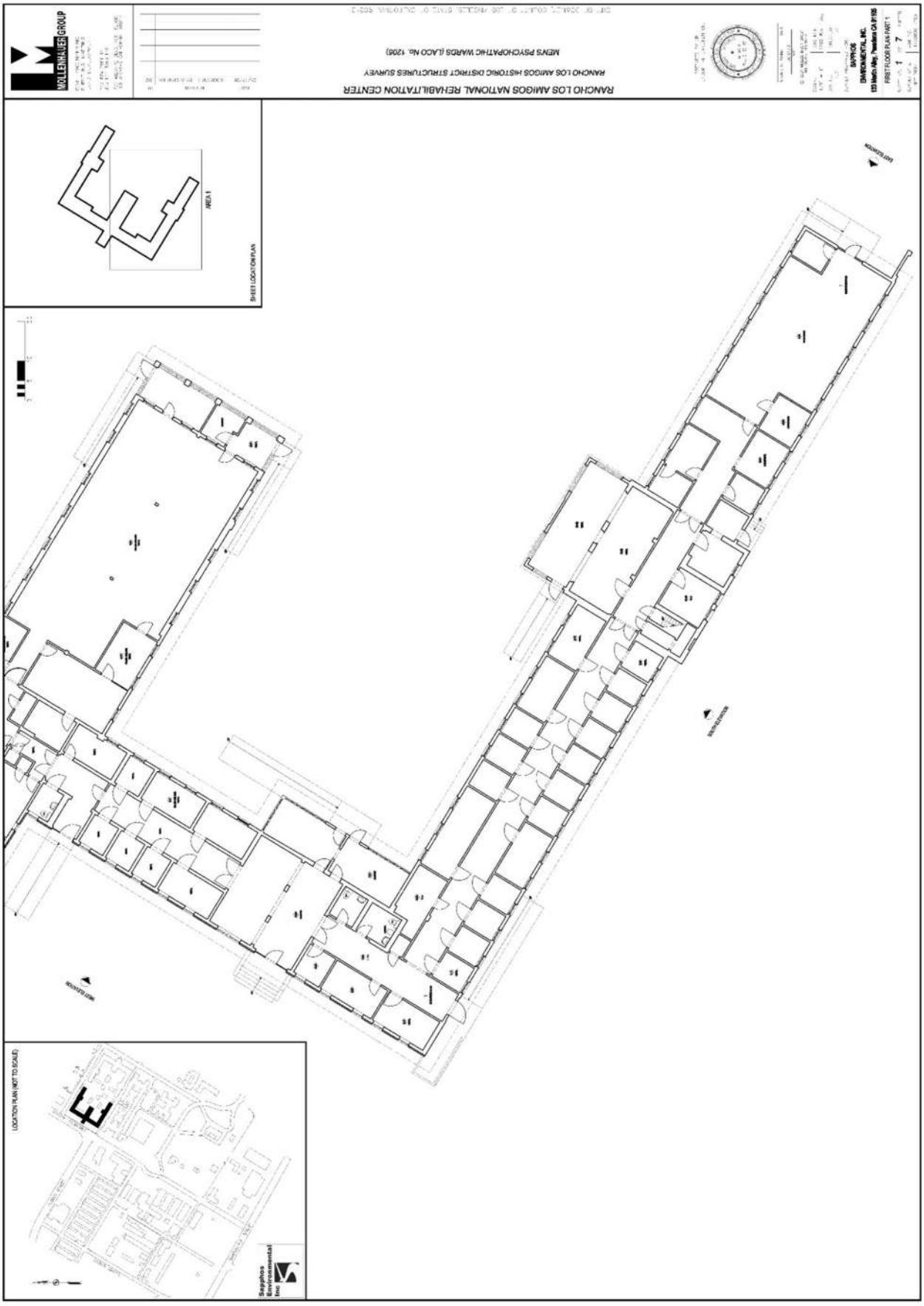
• **Flooring** – Remove and replace floor with new concrete flooring. Reconstruct 20,000 s.f. of damaged structure.	• **29,000 s.f.**
• **Walls –** Remove paint from masonry. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow Clay tiles are to be encapsulated with 4" 16 ga. Metal studs and gyp bd. each side.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **28,900 s.f.** • **Reconstruct new ceiling and framing assembly of 20,000 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **200 lf.**

• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **Assume 4 new restroom cores, 1,400 s.f. 8 fixtures, 6 sinks.**
• **Electrical –** New 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in eight (8) locations and provide with new railings and new maximum slope of 8%.	


MOLLENHAUER GROUP
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEN'S PSYCHOPATHIC WARDS (LACO No. 1205)
SAPPHOS ENVIRONMENTAL, INC.
ELEVATIONS PART 1
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
ELEVATION LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)
Sapphos Environmental Inc


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEN'S PSYCHOPATHIC WARD (LACO No. 1205)
MOLLENHAUER GROUP
ELEVATION 5
ELEVATION 6
ELEVATION 7
ELEVATION 8
NORTH ELEVATION
EAST ELEVATION
WEST ELEVATION
SOUTH ELEVATION
ELEVATION LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)

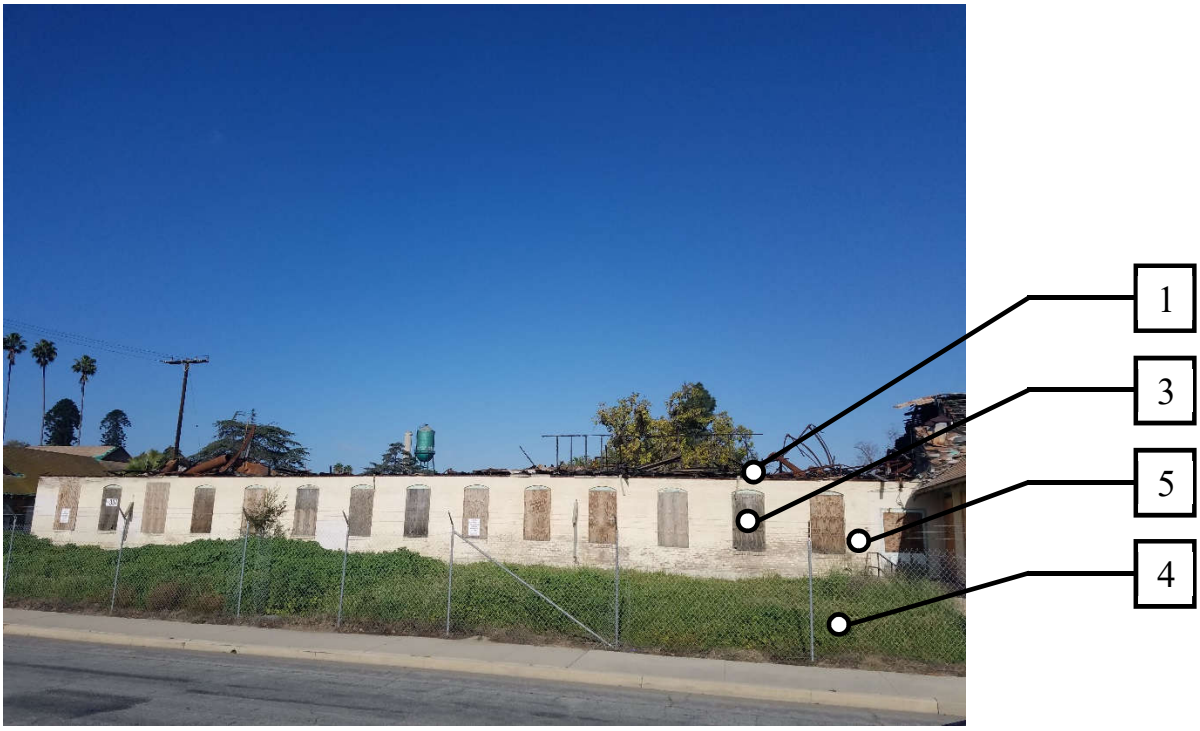

MOLLENHAUER GROUP
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEN'S PSYCHOPATHIC WARDS (LACO No. 1205)
AREA 2
SHEET LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)
Sapphos Environmental Inc
SAPPHOS ENVIRONMENTAL, INC.
FIRST FLOOR PLAN-PART 2


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEHS PSYCHOPATHIC WARDS (LACO No. 1206)
MOLLENHAUER GROUP
SHEET LOCATION PLAN
AREA 1
LOCATION PLAN (NOT TO SCALE)
Segahos Environmental Inc

Partial East Elevation

Partial Elevation East

1. Re-build new roof structure at fire damaged area.
2. Replace wood composition shingle roofing.
3. Remove plywood repair or replace “in-kind” wood windows.
4. Remove all site debris and landscaping – provide new landscape.
5. Repair existing masonry and grout.



Damaged South Portion of Structure

Aerial photo showing fire damage

1. Re-build new roof structure at fire damaged area.
2. Replace wood composition shingle roofing.
3. Remove plywood repair or replace “in-kind” wood windows.
4. Remove all site debris and landscaping – provide new landscape.
5. Repair existing masonry and grout.

Men's Psychiatric ward (LACO 1205)

30,388 s.f. s.f.
Built 1915
Primary Contributor to historic District

Building Description

Consisting of two "U-shaped" buildings that enclosed a rectangular, central courtyard, the Men's Psychiatric Ward Complex (LACO No. 1204) occupies the north half of the block bounded by Golondrinas Street to the north, and Dahlia Avenue to the east. Mostly one-story in height, the wards present a nearly symmetrical appearance on their primary, west and east elevations. A medium-pitched, hipped and hip-on-gable roof, punctuated by front-gabled vents, caps the building, with rafters that are exposed in the overhanging eaves. Galvanized iron skylights with wire glass and interior chimneys are located just below and on the roof ridgeline. Two-story, flat-roofed pavilions are offset to the west on the north and south elevations. The exterior walls are brick, laid in common bond pattern and painted with horizontal metal siding that has been installed over the brick on the west half of the complex. Attached, hip-roof porches project towards the street on the west and east elevations and contain the primary entrances. Window and door openings are defined by segmental arch heads articulated by triple courses of brick headers. Original windows, where extant, are wood-framed and include four-over-four, double-hung sash windows; one-over-one, double-hung sash windows; one-light fixed windows.

All windows are flat-headed and trimmed by slightly raised header sills. Additional entrances are located within the interior courtyard. Courtyard projections contain sunrooms. Elevated concrete walkways and ramps provide access to secondary and courtyard entries. Segmented arched door openings with triple header bands frame extant original wood doors and replacement metal doors. The complex is in fair condition and its windows and doors have been boarded with plywood. The structure has been seriously damaged by fire on the southeast portion of the building with only the masonry walls and foundation remaining.[1]

Statement of Significance

The significance of LACO No. 1205 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort. Here it is important to note—for the sake of clarity—that at the time the DPR form was completed, the Men's Psychiatric Ward (LACO No. 1205) was described in conjunction with another nearly identical building—the Men's Psychiatric Ward (LACO No. 1204)—rather than treated as a separate entity as it is here

[1] 1, Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1205),* prepared for the County of Los Angeles June 2, 2008.

for the purposes of the Feasibility Study. The DPR form described the significance of the property as follows:

> The Men's Psychiatric Ward (LACO No. 1205) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The Men's Psychiatric Ward Complex was erected in several stages from 1907 to 1924. The oldest part of the complex, LACO No. 1205 on the west, initially housed both male and female "psychopathic wards." Initially constructed to house mentally unstable patients transferred from the County Hospital, the facility eventually was considered one of the outstanding psychiatric ward faculties in the State of California. It provided ward space and medical care for hundreds of Los Angeles County patients for many years until the facility was closed in the late twentieth century, and the buildings converted to offices and storage. The buildings are currently abandoned.
>
> Although the complex has been somewhat altered, its exterior appearance still reflects its period of construction. An example of brick vernacular styling, the building retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features, including: horizontal massing and overall symmetry of design; courtyard plan; one- and two-story height; brick exterior walls; hipped and gable-on-hip roof; segmental arched window and door openings with triple header bands; raised and corbelled brick courses defining belt courses; and attached entry porches. Its setting has been altered through the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

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[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Men's Psychiatric Ward (LACO No. 1205),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has asbestos shingles over cedar shakes with overhanging eaves. Substantial portion of the roof is missing due to fire damage. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **31,000 s.f.**
• **Exterior walls –** Masonry and exterior plaster is damaged in approximately 50% of the structure.	• **47,124 of plater**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **18 existing door locations**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **142-3'x5' wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining. Portions of interior space were non -accessible due to hazardous materials throughout.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **30,000 s.f.**

• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **30,000 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace entire asbestos and shake roofs and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **31,000 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **18 exterior doors** • **Replace in kind**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **142- 3'x 5' wood windows** • **Replace in kind 20% (29)**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **50,000 s.f. courtyard.**

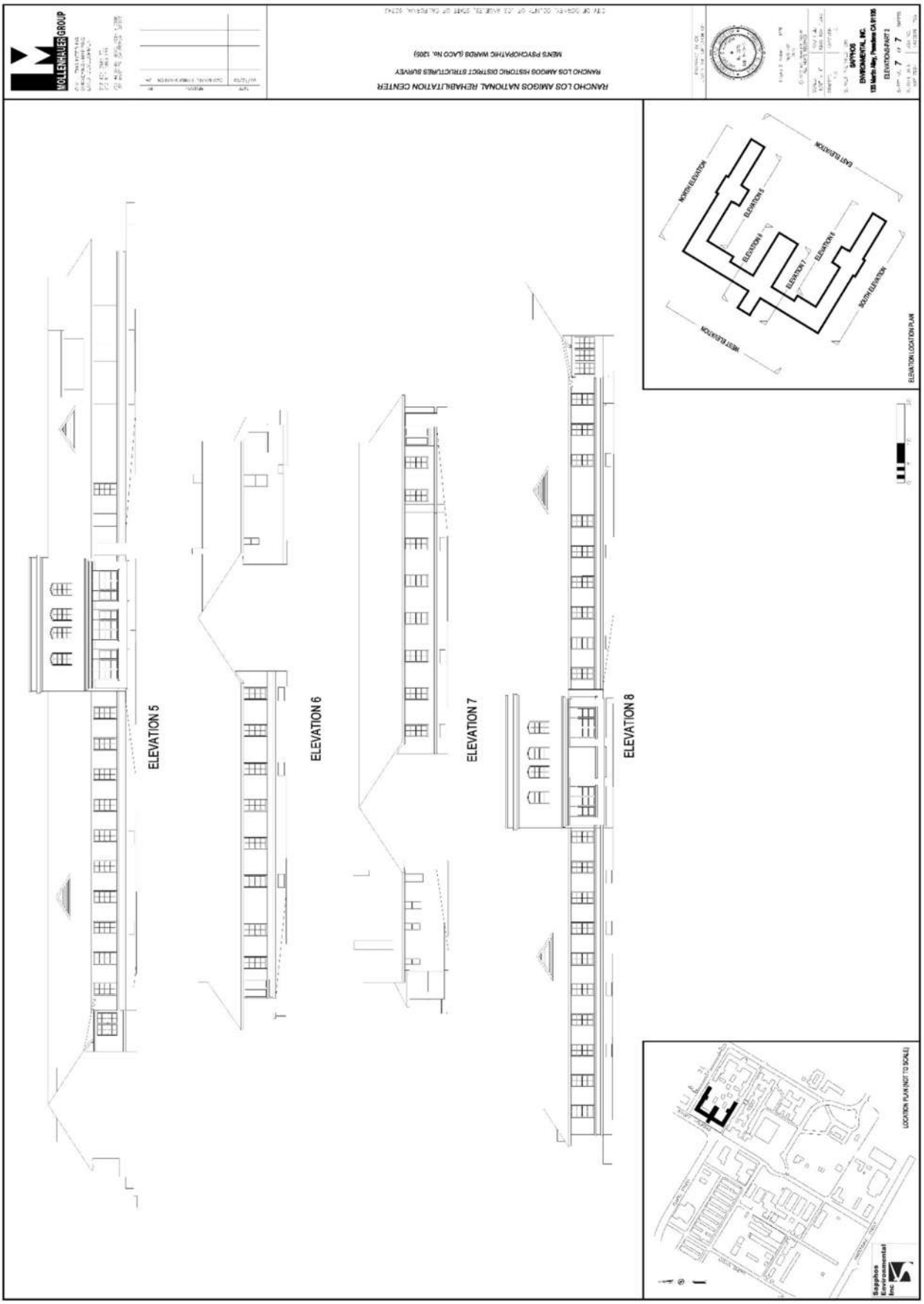
Interior Spaces

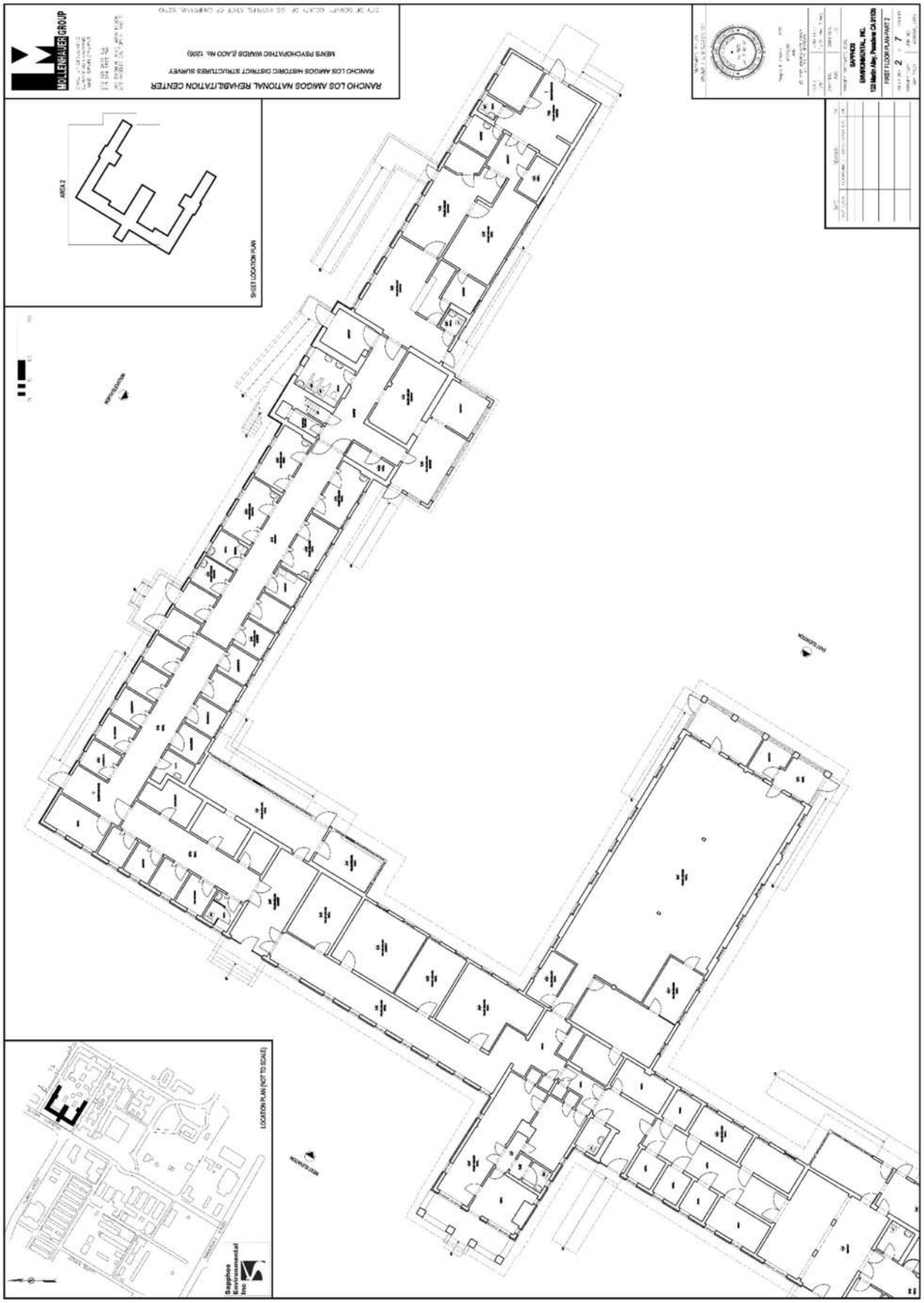
The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan non character defining.

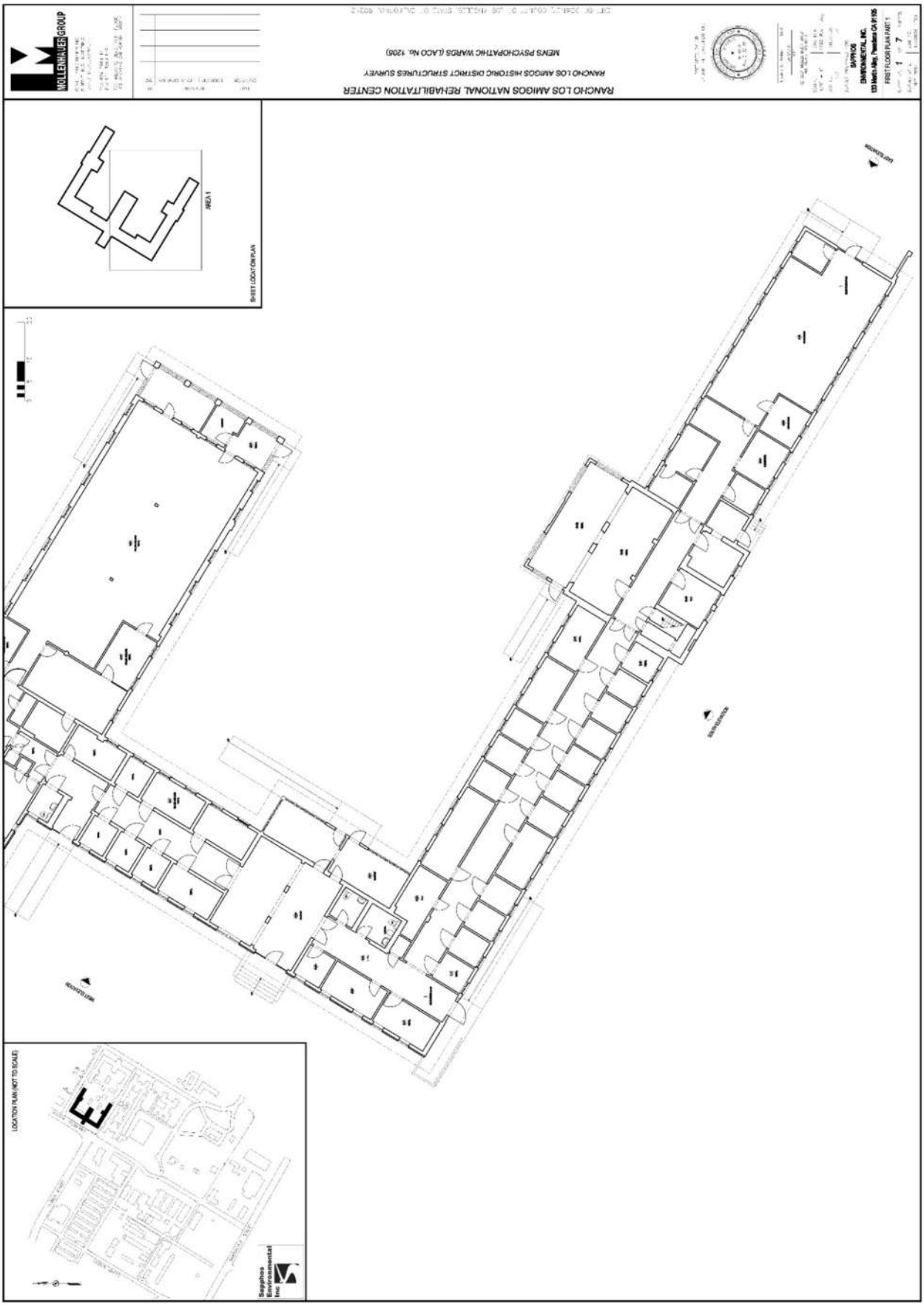
It is assumed that this 30,388 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Service Offices. In order to provide a contemporary working environment per County space requirements, it will be assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan may not directly follow current LA County office area standards which may need to be adjusted to accommodate building features.

• **Flooring –** Remove and replace floor with new concrete flooring.	• **30,000 s.f.** • **Assume 50% replacement**
• **Walls –** Remove paint from masonry. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow Clay tile walls to be encapsulated with 4" 16 ga. Studs and gyp bd. each side.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **30,000 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **600 lf of cabinetry.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **Assume 4 restroom cores**

	total 1,400 s.f., 8 fixtures, 6 sinks.
• **Electrical –** New 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in twelve (12) locations and provide with new railings and new maximum slope of 8%.	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
MOLLENHAUER GROUP
ELEVATION 5
ELEVATION 6
ELEVATION 7
ELEVATION 8
ELEVATION LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)


MOLLENHAUER GROUP
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEN'S PSYCHOPATHIC WARDS (LACO No. 1205)
AREA 2
SHEET LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)
Sapphos Environmental Inc
SAPPHOS ENVIRONMENTAL, INC.
FIRST FLOOR PLAN-PART 2


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEN'S PSYCHOPATHIC WARDS (LACO No. 1205)
MOLLENHAUER GROUP
SHEET LOCATION PLAN
AREA 1
LOCATION PLAN (NOT TO SCALE)
Sapphos Environmental Inc

South Elevation

View from Interior Courtyard

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair or replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

Exterior ramp to be replaced (one of 12)

Interior damaged walls and ceilings.

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair or replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

B LACO No. 1205 (Men's Psychiatric Ward) – Structural Assessment Report

Structural Assessment: Men's Psychiatric Ward
(LACO NO. 1205)

Summary of Assessment

The Men's Psychiatric Ward (LACO No. 1205) is a "U"-shaped building with a total square footage of approximately 30,388 square feet and was constructed around 1910. Based on the architectural drawings that were available for review, it seems that the east ends of the building were additions constructed in 1916. A covered walkway connects the north wing of LACO No. 1205 to LACO No. 1204. The building has a wood roof system supported by unreinforced brick masonry walls. Wood rafters and trusses are used to support the straight sheathed roof system.

The building is in poor condition. Evidence of water damage and fire damage was seen throughout the building in addition to damage associated with the age of the building and other factors. Cracking and deterioration of building materials were noted throughout the structure. The expected seismic performance of this building in its current condition is poor. The building does not have significant lateral force resisting capacity for a moderate earthquake. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Men's Psychiatric Ward has brick masonry exterior walls supporting a wood hip roof. There are two small two-story sections, one at the north wing and one at the south. These portions were added approximately six years after the original construction, along with the easternmost wings. The two-story portions consist of concrete floors and concrete beams at the second floor, but their brick walls and wood roof framing are consistent with the rest of the building. Not much is known about the interior walls of this building, but it is likely that many consist of hollow clay tile (HCT), as found in LACO Nos. 1202 and 1203. The exterior walls have windows every few feet along the entire length of wall (Figure 1). The wood roof system consists of shingles over straight sheathing over wood framing (Figure 2). The typical framing consists of wood trusses spaced approximately four feet on center. The building is raised on concrete stem walls.

Condition Assessment

The Men's Psychiatric Ward building is in very poor condition. The condition of the building presented potential health and safety risks and did not allow for observation of the entire structure. However, the areas that were observed provided a representation of the building as a whole.

The building does not appear to have a proper or complete lateral force resisting system. The roof framing does not provide adequate anchorage for the walls, as there are no additional wall anchors at the embedded roof rafters. The straight board roof sheathing is in poor condition, showing signs of both dry rot (Figure 3) and water damage (Figure 4[1]); it would need to be replaced or supplemented to accommodate wall anchorage forces. In many areas, as shown in Figure 5, the roof shingles have fallen; this may have exposed the roof framing and caused water damage and/or rot in areas that are not visible. The peeling paint and fallen ceiling tiles shown in Figure 6 are further signs of water damage. In areas of the building with plaster ceilings, portions of the ceiling have fallen, and deterioration of the metal lath is visible as shown in Figure 7. Plaster ceilings and ceiling tiles should be removed and replaced to prevent potential falling hazards and injury.

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

Significant fire damage was observed in multiple rooms. Figure 8 and Figure 9 show walls and ceiling that are covered in soot and cracked. The cracking may be due to the heat from the fire leading to expansion of the wall material which can cause cracking. In Figure 9, the wood lath of the ceiling is charred; similar damage may have occurred at the roof framing. The concrete slabs at the two two-story portions may have damage due to fire, prolonged moisture or other causes. If any of the reinforcement is exposed, it may have deteriorated. The slabs should be evaluated to determine their remaining strength and will likely need to be strengthened.

The hollow clay tile (HCT) walls that were likely constructed throughout the building are extremely brittle and generally not suitable for shear or bearing walls. Additionally, HCT walls are known to be a high-risk potential falling hazard; the walls are likely to collapse, break into many pieces, and obstruct egress. It is highly recommended that all HCT walls be removed and replaced. If there is a strong desire to leave non-bearing HCT walls in place, new heavy metal stud walls may be installed on both sides of the HCT wall to encapsulate the wall and mitigate the potential falling hazard. The unreinforced brick masonry walls are similarly unsuitable for shear resistance and present a potential falling hazard. These walls should be strengthened or replaced, and measures should be taken to ensure bricks do not fall, causing injury or blocking egress.

Many of the bricks have chipped and spalled at the exterior wall faces. The mortar in these brick walls is also deteriorating (Figure 10). The stem walls and footings were not accessible for observation. However, in general, the foundations for the structure are minimal and will likely need to be strengthened.

A covered walkway leads from the northeast wing of this building (LACO No. 1205) to the northwest wing of LACO No. 1204 (Figure 11). It appears this walkway is a separate structure, though it may be connected to each building. If the walkway is attached to either building, it could pose a potential risk for damage to both structures if they are not separated. The buildings will attempt to move independently of each other in the case of a seismic event, and this could lead to damage of the walkway, particularly its roof, or damage to the building walls. Just behind the walkway (to the north), is a concrete block masonry wall connecting the two buildings. A similar block wall connects the buildings at the south end (Figure 12), creating an enclosed courtyard between the buildings. These block walls were likely constructed years after the original buildings were built, since they consist of block masonry and not brick masonry. However, the walls appear to be positively attached to the buildings, and these connections could be detrimental. The buildings will attempt to move independently of each other in the case of a seismic event, which could lead to cracking and significant damage where the connection occurs. This damage can lead to loss of gravity support and obstruction of egress (if pieces of the structure or blocks from the wall fall into the path of egress), threatening the safety of any occupants of the building. It is recommended that a seismic joint be installed at each end of the walkway and at each end of the two block walls to mitigate potential damage and life-safety concerns.

Evaluation of Structural Performance

The building plan is irregular in shape, which is a source of concentration of stress. The masonry has deteriorated significantly, a sign of a loss of strength in the material. The main positive aspect of this building's design is its light roof, which means lower shear stress during an earthquake. However, in general, unreinforced brick masonry structures tend to perform very poorly during moderate earthquakes. This building type is no longer allowed in new construction due to its historically poor earthquake performance. Though the building performed well in previous regional earthquakes, the walls still present a significant potential falling hazard and are not likely to perform well in a closer or more severe earthquake. The age of this building and its lack of significant lateral design are associated with a possible risk of partial or total collapse in the event of a moderate earthquake.

The roof of this building is capable of resisting lateral forces, but its strength may not be sufficient. Further analysis would need to be done to determine the required strength of the diaphragm. The connection of the roof to the walls, as well as the ties and collectors, are likely not sufficient to transfer forces across the building.

It is likely that all existing interior walls that are to remain need to be replaced or strengthened. If many new interior walls are added to the building layout to create additional office space, this will increase the weight of the building and may require additional strengthening of the overall structure, including its foundation.

If the interior walls are to be reconfigured to allow for a different use of the space, the expected structural performance of the building will be affected. An extensive structural analysis will be required, though it is very likely that new concrete shear walls will need to be added throughout the building to provide supplemental lateral resistance. Depending on the layout and placement of new walls and removal of old walls, a revised interior wall layout can provide a highly increased structural performance to the building. This is due to the superiority of current design and construction methods compared to the existing construction. New foundations would also have to be added below any new shear or bearing wall locations.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the masonry walls. Strengthening will likely be needed on every wall, on the majority of the wall's surface area. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced masonry walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the shotcrete. 100% of the existing masonry walls will need shotcrete or another strengthening method.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be partially covered by a network of steel tube framing.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient for providing protection of character-defining features and increasing performance and strength compared to the other methods.
- If any interior brick walls are discovered and are to remain, they should be strengthened with shotcrete, FRP, and/or strongbacks as described above.
- If any interior brick masonry walls are to be removed, new concrete shear walls should be added throughout the building to supplement the lateral support system. Extensive structural analysis would be required to determine where new walls should be placed to accommodate a rearrangement of the structural layout. New concrete shear walls may be required even if no existing walls are removed.
- All new walls must be connected to the existing diaphragm and floor by post-installed epoxy anchors and steel connectors.
- New continuous concrete footings will be required at all new concrete walls. The walls should be doweled into the footings.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other risks they present. However, if there is a strong desire to leave

non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in case of damage or collapse.

- Install seismic joints at the walkway and the block masonry walls between LACO No. 1204 and LACO No. 1205.

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors will likely need to be installed four feet on center. At the two-story portions, install anchors to both the concrete first floor diaphragm and the wood roof diaphragm.
- Install additional steel connectors as needed.
- Add cross ties, collectors, and additional strengthening hardware as needed to complete load path.
- Check the connection of the trusses to the perimeter walls. Strengthen as needed.
- Test and analyze all concrete slabs; strengthen the slabs as needed.

General Condition

- Repair and/or replace all deteriorated masonry. Patch and grout any areas (in masonry or concrete) where spalling and cracking has occurred.
- Repair the eroded grout (mortar) at masonry walls. It is expected that approximately 20-80% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building may need to be repointed.
- Replace deteriorated and insufficient wood members with new members.
- Strengthen the foundations and stem walls of the building. This process should include shoring and excavating localized sections to install the footings. This should be repeated along all load bearing walls and underneath load bearing posts.
- Where small sections of wood framed construction exist, install structural plywood or metal siding on a few walls in each principal direction. The amount of siding needed and the number of walls affected will be determined through an in-depth analysis. Reinstall any character-defining original coverings over top of new plywood if necessary.
- Remove and replace ceilings.
- Patch and grout any reinforced concrete that is spalling and cracking; replace any deteriorated concrete.

Figure 1: Typical exterior condition, shown at the south wing

Figure 2: Roof framing

Figure 3: Dry rot and deterioration of roof framing

Figure 4: Fallen plaster ceiling and evidence of water damage to sheathing

Figure 5: Roof damage

Figure 6: Damaged ceiling & evidence of prolonged moisture

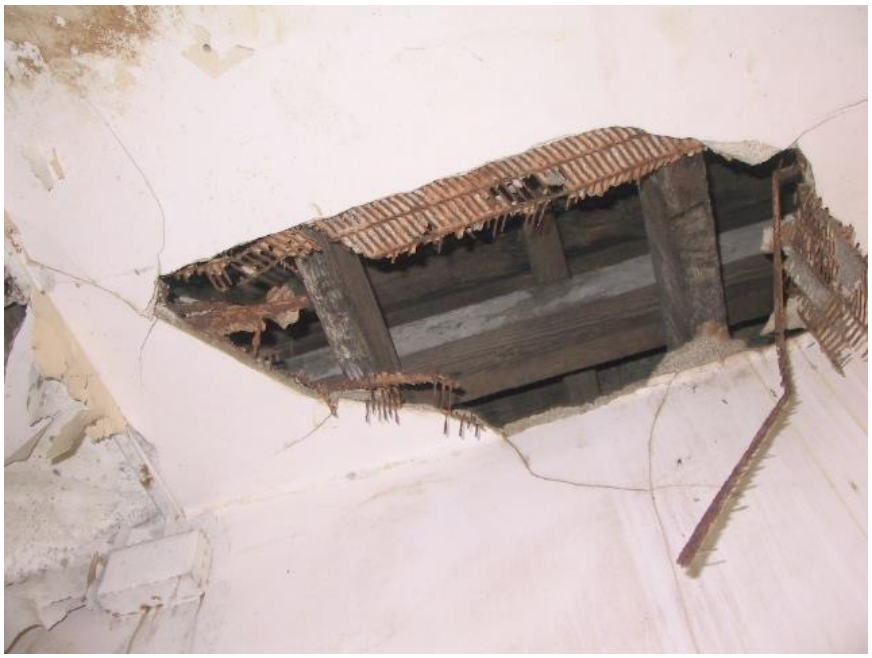


Figure 7: Damaged and fallen plaster ceiling

Figure 8: Cracking at fire-damaged ceiling and wall

Figure 9: Fire damage at ceiling

Figure 10: Deterioration of brick masonry and mortar

Figure 11: Connecting walkway at north side

Figure 12: Connecting masonry wall at south side

C LACO No. 1205 (Men's Psychiatric Ward) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Men's Psychiatric Ward (LACO 1205)

MGAC

Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1205)

			SF	$/SF	TOTAL $ x 1,000
B1	Men's Psychiatric Ward (LACO 1205)		30,388	457.81	13,912
SUB-TOTAL BUILDING CONSTRUCTION			30,388	457.81	13,912
S1	Sitework		50,000	53.88	2,694
	Premium for enhanced sustainable site features				249
SUB-TOTAL SITEWORK					2,943
TOTAL BUILDING AND SITEWORK					**16,855**
Escalation to Midpoint (Jul 2021)		11.7%			1,966
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			1,506
	Project Management Consultant Services	3.0%			610
	FF & E	5.8%			1,214
	Taxes and Indirect Fees	1.0%			222
	Building Permit and Other Agency Fees	1.5%			336
	Owner Contingency/Construction Contingency	25.0%			5,677
Recommended Budget					***28,386***

Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1205) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	30,388		
TOTAL GROSS FLOOR AREA	**30,388**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.000
Gross Area		30,388	SF	1.000
Enclosed Area		30,388	SF	1.000
Covered Area		0	SF	-
Footprint Area		30,388	SF	1.000
Gross Wall Area		25,300	SF	0.833
Finished Wall Area		25,300	SF	0.833
Windows or Glazing	13%	3,300	SF	0.109
Roof Area - Sloping		32,600	SF	1.073
Roof Area - Total		32,600	SF	1.073
Roof Glazing Area		0	SF	-
Interior Partitions		1,250	LF	0.041
Finished Area		30,388	SF	1.000

MGAC

Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1205) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	30,388 SF	
A10	Foundations		4%	17.04	518
A20	Basement Construction		0%	0.00	0
A	Substructure		4%	17.04	518
B10	Superstructure		9%	42.96	1,305
B20	Exterior Enclosure		5%	22.38	680
B30	Roofing		5%	23.07	701
B	Shell		19%	88.40	2,686
C10	Interior Construction		4%	20.32	617
C20	Stairways		0%	0.00	0
C30	Interior Finishes		13%	60.57	1,841
C	Interiors		18%	80.88	2,458
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		5%	23.54	715
D30	Heating, Ventilation & Air Cond.		10%	45.20	1,374
D40	Fire Protection		2%	7.00	213
D50	Elect'l Lighting, Power & Comm.		16%	71.78	2,181
D	Services		32%	147.52	4,483
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	10.38	315
E	Equipment & Furnishings		2%	10.38	315
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	14.29	434
F	Special Construction & Demolition		3%	14.29	434
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	358.52	10,895
Z10	Design Contingency	10.00%	8%	35.85	1,089
Z11	General Requirements	4.00%	3%	15.78	479
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	410.15	12,464
Z21	General Conditions	6.00%	5%	24.61	748
Z22	Bonds & Insurance	1.50%	1%	6.52	198
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.55	503
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	457.83	13,912
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	457.81	13,912

MGAC

Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1205)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				151,940
Foundation upgrade	30,388	SF	5.00	151,940
A1030 Slab On Grade				366,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	12,200	SF	30.00	366,000
Remove/replace ramp including railings				*site*
				517,940
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				1,012,000
Allow shotcrete interior face of exterior walls	25,300	SF	40.00	1,012,000
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				293,400
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	32,600	SF	9.00	293,400
New roof structure				*n/a*
				1,305,400
B20 Exterior Enclosure				
B2010 Exterior Walls				309,925
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	25,300	SF	8.00	*202,400*

	Quantity	Unit	Rate	Total
Painting to exterior walls	25,300	SF	3.00	75,900
Loose fill insulation				*n/a*
Painting to interior face of exterior walls (shotcrete area)	25,300	SF	1.25	31,625
B2020 Exterior Windows				343,200
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	2,640	SF	100.00	264,000
New windows similar kind, high performance glazing; allow 20%	660	SF	120.00	79,200
B2030 Exterior Doors				27,000
Solid core wood doors including frames and hardware				
Single leaf	9	EA	3,000.00	27,000
				680,125
B30 Roofing				
B3010 Roof Coverings				700,900
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	32,600	SF	21.50	700,900
B3020 Roof Openings				
				700,900
C10 Interior Construction				
C1010 Partitions				292,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	4,700	SF	40.00	188,000
Glazed partitions	1,300	SF	80.00	104,000
C1020 Interior Doors				139,785
New wood doors including frames and hardware (1/500SF)	61	EA	2,300.00	139,785

	Quantity	Unit	Rate	Total
C1030 Fittings				185,552
Prefabricated toilet compartment and accessories	32	EA	2,000.00	64,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	30,388	SF	4.00	121,552
				617,337

C20 Stairways

				0

C30 Interior Finishes

C3010 Wall Finishes				323,040
Repair damaged wall plaster and repaint - interior partitions	25,000	SF	10.00	250,000
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
Enhance wall finishes	1	LS	50,000.00	50,000
C3020 Floor Finishes				303,880
New floor finishes including base	30,388	SF	10.00	303,880
Existing flooring to remain, allow for cleaning				n/a
C3030 Ceiling Finishes				1,213,580
New gypsum plaster ceiling on wood lathe	30,388	SF	35.00	1,063,580
Allowance for lightcoves and bulkheads	1	LS	150,000.00	150,000
				1,840,500

D10 Conveying Systems

				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				120,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	60	EA	2,000.00	120,000
D2020 Domestic Water Distribution				202,750
Domestic service pipework				
Hose bibs, 3/4" (allowance)	4	EA	2,500.00	10,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	60	EA	3,000.00	180,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	12,750.00	12,750
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				271,164
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	30,388	SF	2.00	60,776
Condensate drainage pipework, fittings, < = 1-1/2", insulated	30,388	SF	1.00	30,388
Waste, vent, fittings, < = 6"	60	EA	3,000.00	180,000
D2040 Rain Water Drainage				91,164
Surface water drainage				
Roof & overflow drains, < = 6"	30,388	SF	3.00	91,164
D2090 Other Plumbing Systems				30,388
Including floor drainage systems				
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	30,388	SF	1.00	30,388
				715,466

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				323,061
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	1,250	mbth	27.50	34,375
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	30,388	SF	1.50	45,582
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	30,388	SF	8.00	243,104
D3040 Distribution Systems				690,377
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	37,985	LB	12.00	455,820
Dampers	1	LS	45,582.00	45,582
Insulation	28,489	SF	4.50	128,199
Diffusers, registers and grilles	30,388	SF	2.00	60,776
D3050 Terminal & Package Units				170,388
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	30	EA	1,000.00	30,388
D3060 Controls and Instrumentation				136,746
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	30,388	SF	4.50	136,746
D3070 Systems Testing & Balancing				45,582
Test and balance air systems	30,388	SF	1.50	45,582
D3090 Other HVAC Systems & Equipment				7,500
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	7,500.00	7,500
				1,373,654

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				212,716
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	30,388	SF	7.00	212,716
				212,716
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				281,858
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,200	AM	65.00	78,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	100	kVA	975.00	97,500
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	30,388	SF	3.50	106,358
D5020 Lighting & Branch Wiring				1,215,520
User convenience power				
Panel board breakers, 120 V circuits	30,388	SF	2.00	60,776
Receptacles, including conduit and cable	30,388	SF	5.50	167,134
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	30,388	SF	27.50	835,670

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	30,388	SF	5.00	151,940
D5030 Communications & Security				425,432
Telephone and communications				
Telephone/data - including conduit & cable	30,388	SF	6.50	197,522
WAP	30,388	SF	1.00	30,388
DAS - Emergency response & cellular	30,388	SF	4.00	121,552
Cable tray/wire-way/j-hooks	30,388	SF	1.00	30,388
Audiovisual rough-in	30,388	SF	1.50	45,582
D5090 Other Electrical Systems				258,298
Fire alarm systems	30,388	SF	4.50	136,746
Security - perimeter access control & CCTV surveillance	30,388	SF	4.00	121,552
				2,181,108
E10 Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				315,300
Cabinets, countertops shelving and millwork	200	LF	1,200.00	240,000
Lavatory countertop	36	LF	300.00	10,800
Window treatment, mechoshade, manual	3,300	SF	15.00	49,500
Entrance mat	1	LS	15,000.00	15,000
				315,300

MGAC

Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1205)

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				206,436
Demo/remove portion of slab on grade	12,200	SF	3.00	36,600
Exterior window	660	SF	5.00	3,300
Doors	70	EA	150.00	10,466
Shingled roofing including roof sheathing	32,600	SF	1.00	32,600
Demo/remove 75% of existing partitions	14,100	SF	3.00	42,300
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	30,388	SF	2.50	75,970
Allow for clearing/removal of storage debris	80	MH	65.00	5,200
F2020 Hazardous Components Abatement				227,910
Hazmat abatement - allowance	30,388	SF	7.50	227,910
				434,346

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Men's Psychiatric Ward (LACO 1205)				
Gross Site Area	80,400	SF		
Building footprint	30,388	SF		
Net Site Area	50,000	SF		
General site clearing, demo and remove paving/landscaping	50,000	SF	4.00	200,000
Site paving, site structures, fencing, landscaping & irrigation	50,000	SF	25.00	1,250,000
Premium for permeable paving	25,000	SF	13.00	325,000
Remove/replace ramp including railings	8	EA	7,500.00	60,000
Site lighting and drainage	50,000	SF	2.00	100,000
Site Utilities	50,000	SF	3.50	175,000
Alternate Cost Before Markups				**2,110,000**
Z10 Design Contingency	10.00%			211,000
Z11 General Requirements	4.00%			92,840
Z21 General Conditions	6.00%			144,830
Z22 Bonds & Insurance	1.50%			38,380
Z23 Contractor's Overhead, Profit & Fee	3.75%			97,389
Z30 See Overall Summary for Escalation	0.00%			
				2,694,440

D LACO No. 1205 (Men's Psychiatric Ward) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Men's Psychiatric Ward #1205

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Men's Psychiatric Ward (LACO #1205) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Men's Psychiatric Ward #1205 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Men's Psychiatric Ward (LACO #1205), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction system. Provide rain leader*

		extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	No, exterior masonry walls show signs of deterioration and need repair. The walls have areas of moisture entering from the exterior and draining down the walls. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. *The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove all failed roofing, decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to*

		promote circulation through the building during the dry-out.
M-7	Is siding in good condition?	There is no siding. As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal*

		management specialists to inspect and apply best practices for the management of the skunk population. • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*

H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security

		and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department* *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*

S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*

VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing

		components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Partial south elevation	
2	Windows covered in plywood	

3	Interior damage	
	Partial south elevation	

E LACO No. 1205 (Men's Psychiatric Ward) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Men's Psychiatric Ward (LACO 1205)

MGAC

Mothballing Cost Plan — Men's Psychiatric Ward (LACO 1205)

			SF	$/SF	TOTAL $ x 1,000
B1	Men's Psychiatric Ward (LACO 1205)		30,388	31.89	969
TOTAL BUILDING CONSTRUCTION			30,388	31.89	969
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**969**
Escalation to Midpoint (Jul 2021)		11.7%			113
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			43
	Project Management Consultant Services	2.0%			23
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			11
	Building Permit and Other Agency Fees	1.5%			17
	Owner Contingency/Construction Contingency	10.0%			118
Recommended Budget					***1,294***

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Mothballing Cost Plan — Men's Psychiatric Ward (LACO 1205)

Item Description	Quantity	Unit	Rate	Total
1.) Men's Psychiatric Ward (LACO 1205)				
No of floors	***1***	***EA***		
Gross Floor Area	***30,388***	***SF***		
Gross Wall Area	***24,100***	***SF***		
Roof Area	***31,000***	***SF***		
Windows Area	***3,200***	***SF***		
Gross Site Area	***78,900***	***SF***		
Building footprint	***28,917***	***SF***		
Net Site Area	***50,000***	***SF***		
Stabilized structure	30,388	SF	1.50	45,582
Repaint exterior walls	24,100	SF	2.00	48,200
Protect existing openings (exterior doors)	18	EA	800.00	14,400
Install hard protection/boarding to windows	3,200	SF	25.00	80,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	24,100	SF	0.10	2,410
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	31,000	SF	15.00	465,000
Termites, ants, rodents etc - inspection and allowance for treatment	30,388	SF	0.25	7,597
Install smoke & fire detectors including wiring	30,388	SF	1.00	30,388
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	11	EA	275.00	3,025
Remove debris and broom clean	30,388	SF	0.75	22,791
Clear site of weeds and overgrown trees	50,000	SF	0.50	25,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**753,893**
Z10 Design Contingency	15.00%			113,084
Z11 General Requirements	3.00%			26,009
Z21 General Conditions	3.00%			26,790
Z22 Bonds & Insurance	1.50%			13,797
Z23 Contractor's Overhead, Profit & Fee	3.75%			35,009
				968,581

Feasibility Study Reports for LACO No. 1207 (Work Preparation Center)

Primary Contributor

ESA

A LACO No. 1207 (Work Preparation Center) – Architectural Assessment Report

Work Preparation Center (LACO 1207)

3,946 s.f.
Primary Contributor to Historic District

Building Description

Work Preparation Center No.2 (LACO No. 1207) is located in the block bounded by Descanso Street to the north, and Jupiter Street to the east. Exhibiting a monitor roof, or raised roof, barn design, the rectangular building sits on a concrete foundation. The exterior walls are clad in panels of corrugated metal siding. Windows are unevenly spaced around the exterior and consist of a series of original multi-light windows trimmed by raised wood sills. The west-facing façade is nearly symmetrical with a central entrance containing wood paneling and a glazed door flanked on either side by large, wood sliding doors with x-pattern paneling. Hayloft doors are centered over the ground entry level. A secondary entrance is located on the east elevation (rear) and consists of a set of double wooden and glazed doors. Hayloft doors at the roof apex are also located on this elevation. A non-original open shed is attached to the north end of the east elevation, and a corrugated metal canopy links the east elevation to building LACO No. 1259. The property is in deteriorated condition.[1]

Statement of Significance

The significance of LACO No. 1207 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> The Work Preparation Center No. 2 (LACO No. 1207) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1925, presumably in association with the agricultural activities at the Poor Farm. A 1930 aerial photograph of Rancho Los Amigos illustrates a monitor barn a little to the west of, and perpendicular to, LACO No. 1207's current location, raising the possibility that this building was either moved or resembled another barn that was subsequently removed.1 During the Depression, this building had been converted into an ambulatory ward (Fliedner, p. 211). A World War II era photograph shows this building with signs indicating that it functioned both as Ward 104 and as a the Warco production office (Fliedner, pp. 200-201). Warco was an association of Rancho patients who contracted for piece work in the aircraft industry. Following the war, the building was taken over by the Rancho Crafters, patients who had learned crafts under the occupational therapy program who began making products for sale. Eventually the building

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Work Preparation Center (LACO No. 1207),* prepared for the County of Los Angeles June 2, 2008.

became known as the Rehabilitation Center or Rehab Shop. In the last quarter of the 20th century, the building was used for steam fitting and the refrigeration shops. It is currently vacant. Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. Utilitarian in style, the building retains integrity of feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features, including monitor barn design, sliding x-paneled barn doors, and hayloft doors. Its setting has been altered through the deterioration of the surrounding landscape and its location may have been shifted slightly.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has corrugated metal roofing with a substantial portion missing. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **3,946 s.f**

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Work Preparation Center (LACO No. 1207),* prepared for the County of Los Angeles June 2, 2008.

• **Exterior walls –** Exterior corrugated metal panels which are damaged in selected areas. Repairable in some areas.	
• **Exterior trim –** None observed	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **Pair 3'wood entry doors to be replaced. 8'x6' hayloft door to be replaced.**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **24 -3'x4' wood windows** • **16 1x3 clearstory windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Interior plan layout to remain intact.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **3,946 s.f.**
• **Walls –** Existing interior perimeter walls are open to wood studs and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **3,946 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	

• **Mechanical ventilation –** No mechanical system was observed	

Proposed New Upgrades

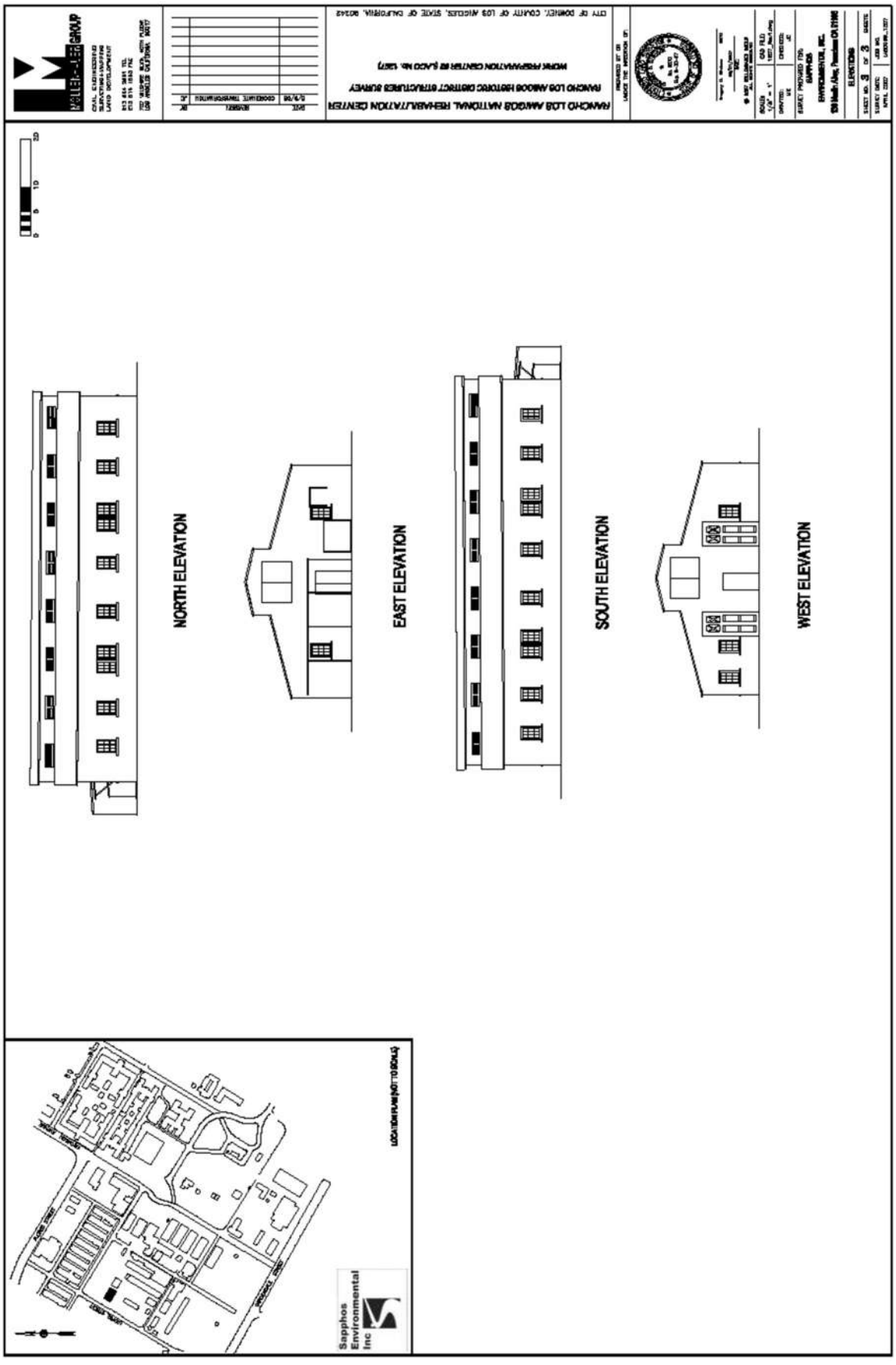
Exterior

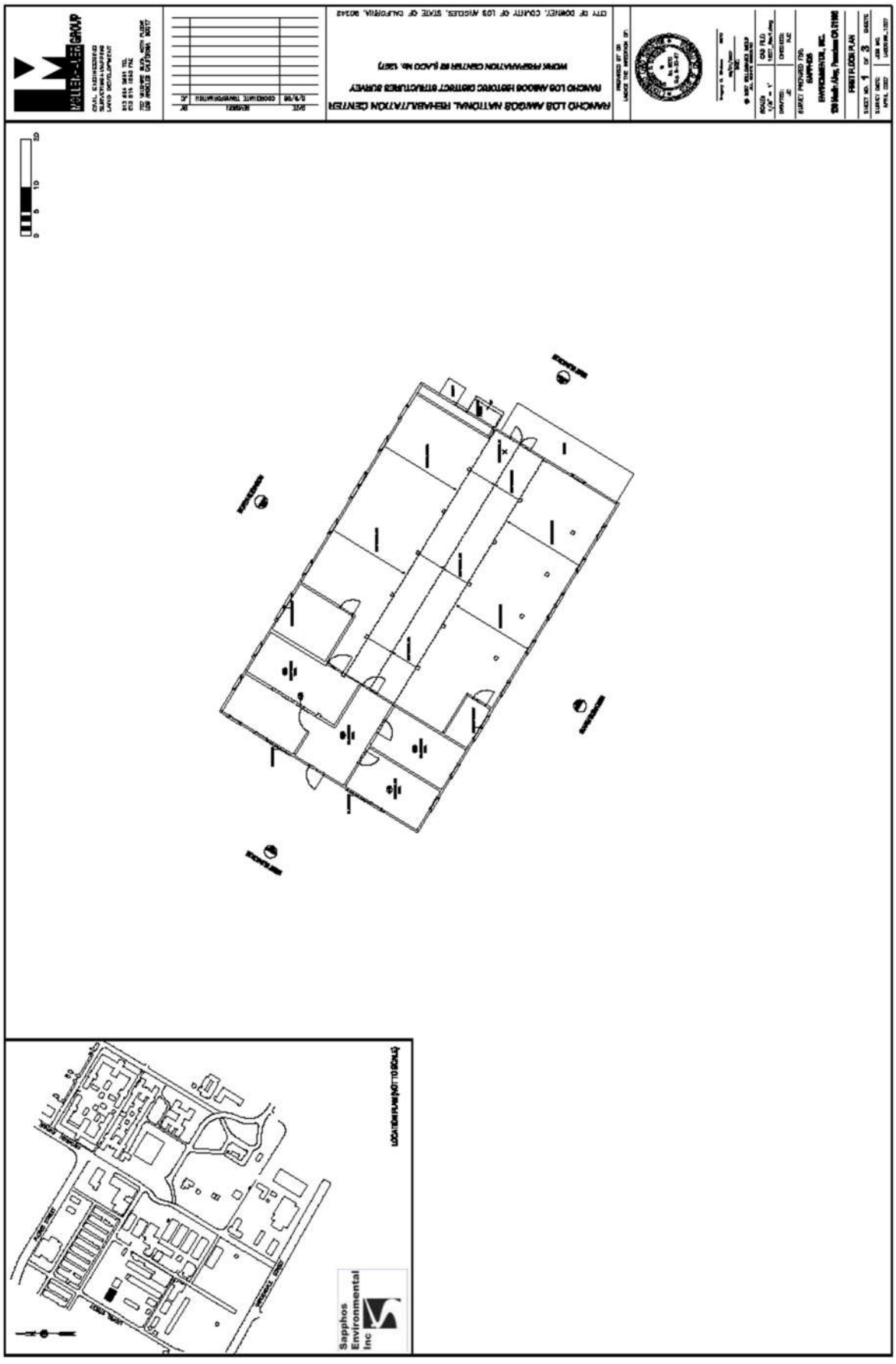
• **Roofing –** Replace entire corrugated and waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **3,946 s.f.**
• **Exterior walls –** Provide refurbished exterior corrugated metal panels over. 3" exterior insulation board.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **Pair entry doors to be replaced. 8'x6' hayloft door to be replaced.**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **24 -3'x4' wood windows** • **16 1x3 clearstory windows**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape. Perimeter exterior landscaping to be landscape and irrigation.	• **3,000 s.f.**

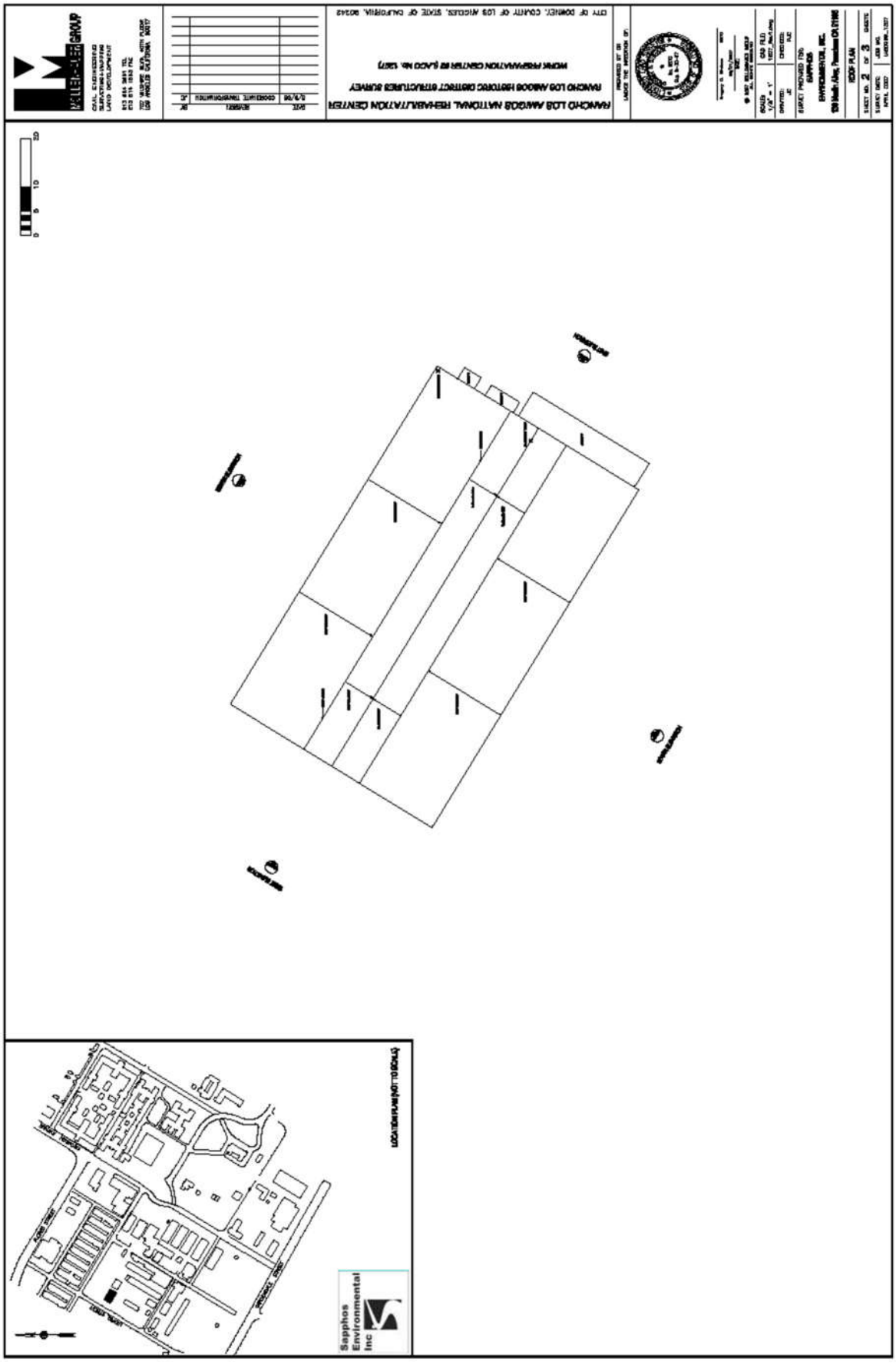
Interior spaces

The existing interior spaces were vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Interior plan remains intact.

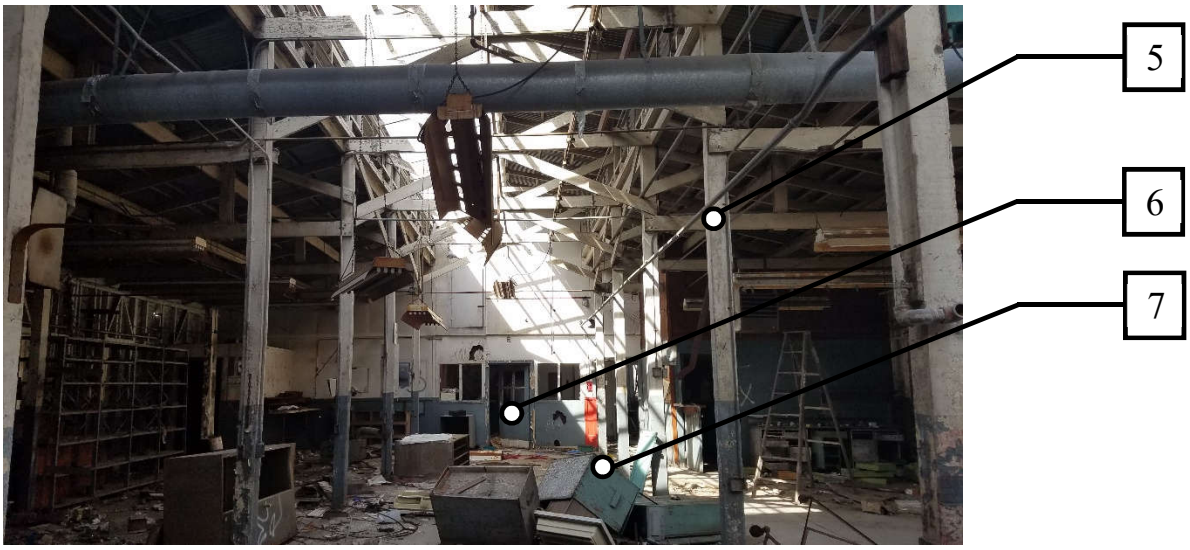
• **Flooring –** Clean and patch existing concrete floor. Provide new concrete sealer throughout.	• **3,946 s.f.**
• **Walls –** Remove all damaged corrugated metal and replace in-kind per the Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling- Ceiling/Roof –** The roof was damaged because of water intrusion. Portions have exposed roof which has been severely damaged and exposed to elements. Refurbish and paint interior wood columns, wood beams and trusses.	• **3,946 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **20 lin. ft**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 5-ton high-efficiency HVAC system and controls ground mounted with hard flex throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **2 fixtures plus sink per gender.**
• **Electrical**- New 200 Amp system	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in one (1) locations and provide with new railings and new maximum slope of 8%.	


NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
Sapphos Environmental Inc


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
FIRST FLOOR PLAN
Sapphos Environmental Inc

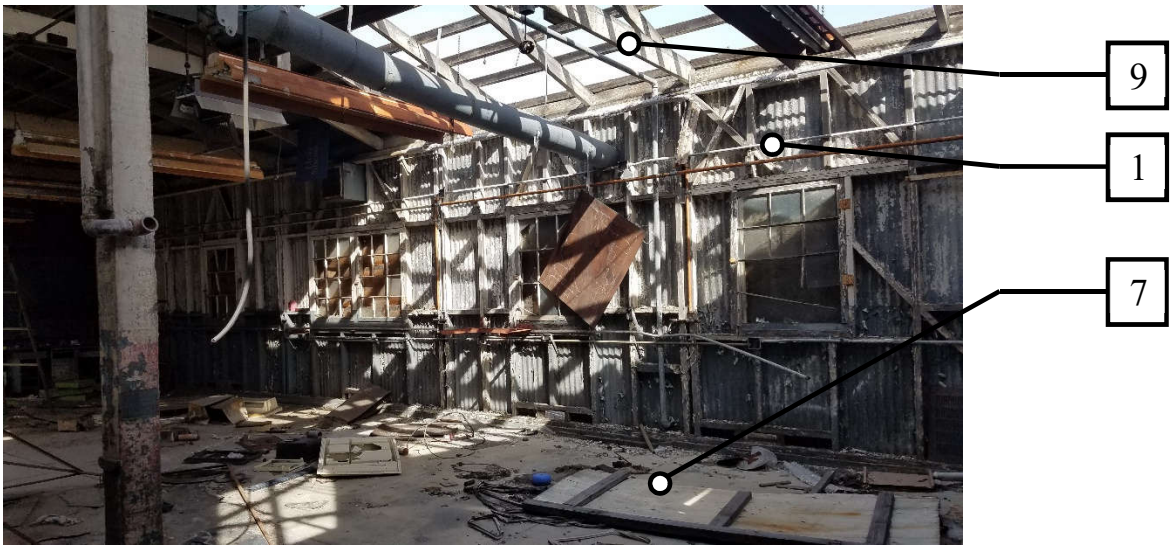

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
WORK PREPARATION CENTER BR (LACD No. 12871)
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, 90242
MILLER-LEE GROUP
ROOF PLAN
LOCATION PLAN (NOT TO SCALE)
Sapphos Environmental Inc

East Elevation



Interior

1. Remove and replace corrugated metal siding.
2. Remove and replace metal awning assembly.
3. Remove and replace hayloft wood doors.
4. Remove and replace wood windows.
5. Paint and repair existing steel frame.
6. Remove and repair interior wood doors.
7. Remove all interior debris.
8. Remove all non-character defining elements and substructure.
9. Replace roof in entirety.



Portion of Roof Missing

South Interior Condition

1. Remove and replace corrugated metal siding.
2. Remove and replace metal awning assembly.
3. Remove and replace hayloft wood doors.
4. Remove and replace wood windows.
5. Paint and repair existing steel frame.
6. Remove and repair interior wood doors.
7. Remove all interior debris.
8. Remove all non-character defining elements and substructure
9. Replace roof in entirety.

B LACO No. 1207 (Work Preparation Center) – Structural Assessment Report

Work Preparation Center (LACO 1207)

3,946 s.f.
Primary Contributor to Historic District

Building Description

Work Preparation Center No.2 (LACO No. 1207) is located in the block bounded by Descanso Street to the north, and Jupiter Street to the east. Exhibiting a monitor roof, or raised roof, barn design, the rectangular building sits on a concrete foundation. The exterior walls are clad in panels of corrugated metal siding. Windows are unevenly spaced around the exterior and consist of a series of original multi-light windows trimmed by raised wood sills. The west-facing façade is nearly symmetrical with a central entrance containing wood paneling and a glazed door flanked on either side by large, wood sliding doors with x-pattern paneling. Hayloft doors are centered over the ground entry level. A secondary entrance is located on the east elevation (rear) and consists of a set of double wooden and glazed doors. Hayloft doors at the roof apex are also located on this elevation. A non-original open shed is attached to the north end of the east elevation, and a corrugated metal canopy links the east elevation to building LACO No. 1259. The property is in deteriorated condition.[1]

Statement of Significance

The significance of LACO No. 1207 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> The Work Preparation Center No. 2 (LACO No. 1207) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1925, presumably in association with the agricultural activities at the Poor Farm. A 1930 aerial photograph of Rancho Los Amigos illustrates a monitor barn a little to the west of, and perpendicular to, LACO No. 1207's current location, raising the possibility that this building was either moved or resembled another barn that was subsequently removed.1 During the Depression, this building had been converted into an ambulatory ward (Fliedner, p. 211). A World War II era photograph shows this building with signs indicating that it functioned both as Ward 104 and as a the Warco production office (Fliedner, pp. 200-201). Warco was an association of Rancho patients who contracted for piece work in the aircraft industry. Following the war, the building was taken over by the Rancho Crafters, patients who had learned crafts under the occupational therapy program who began making products for sale. Eventually the building

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Work Preparation Center (LACO No. 1207)*, prepared for the County of Los Angeles June 2, 2008.

became known as the Rehabilitation Center or Rehab Shop. In the last quarter of the 20th century, the building was used for steam fitting and the refrigeration shops. It is currently vacant. Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. Utilitarian in style, the building retains integrity of feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features, including monitor barn design, sliding x-paneled barn doors, and hayloft doors. Its setting has been altered through the deterioration of the surrounding landscape and its location may have been shifted slightly.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has corrugated metal roofing with a substantial portion missing. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **3,946 s.f**

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Work Preparation Center (LACO No. 1207)*, prepared for the County of Los Angeles June 2, 2008.

• **Exterior walls –** Exterior corrugated metal panels which are damaged in selected areas. Repairable in some areas.	
• **Exterior trim –** None observed	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **Pair 3'wood entry doors to be replaced. 8'x6' hayloft door to be replaced.**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **24 -3'x4' wood windows** • **16 1x3 clearstory windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Interior plan layout to remain intact.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **3,946 s.f.**
• **Walls –** Existing interior perimeter walls are open to wood studs and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **3,946 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	

• **Mechanical ventilation –** No mechanical system was observed	

Proposed New Upgrades

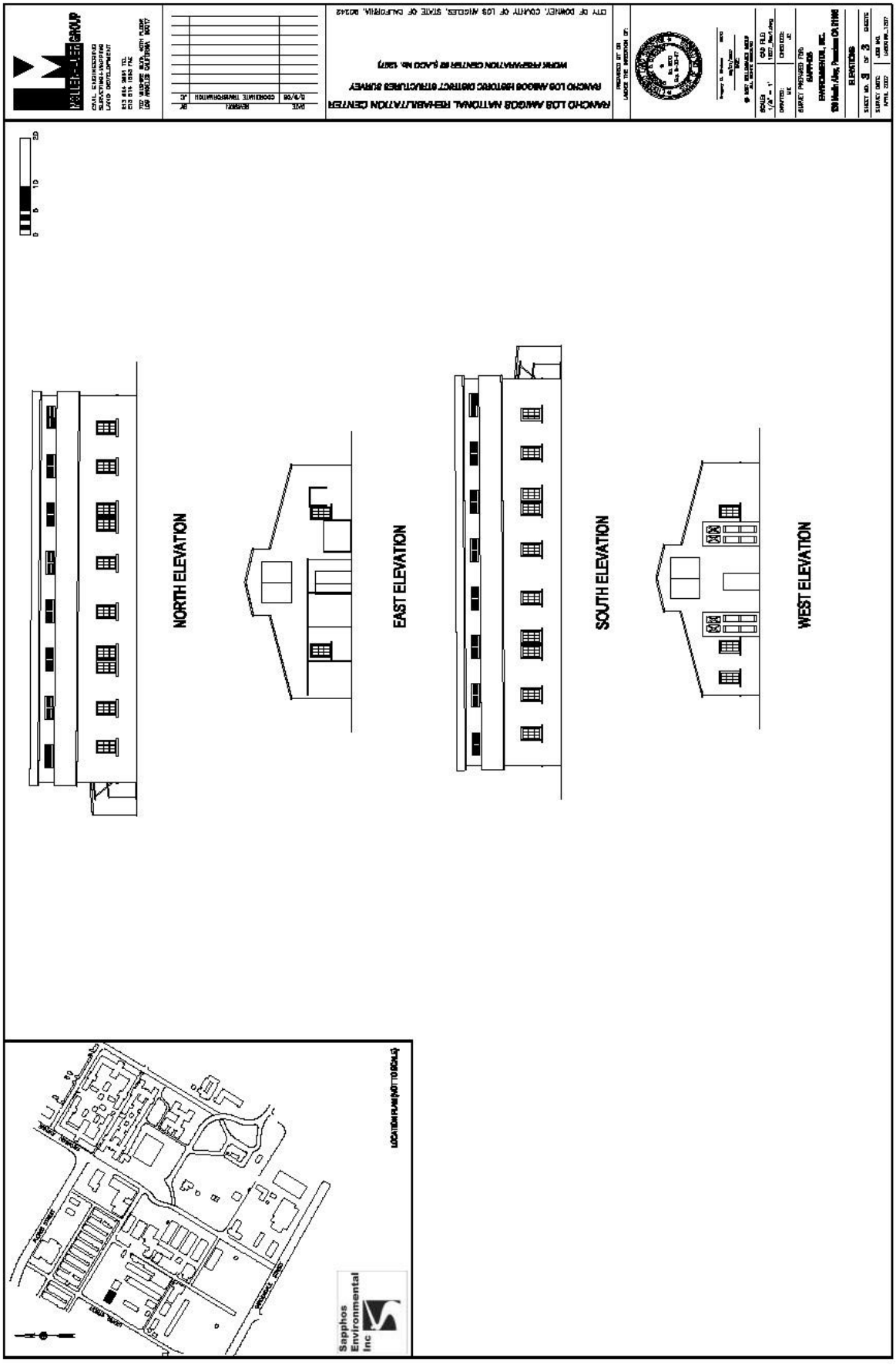
Exterior

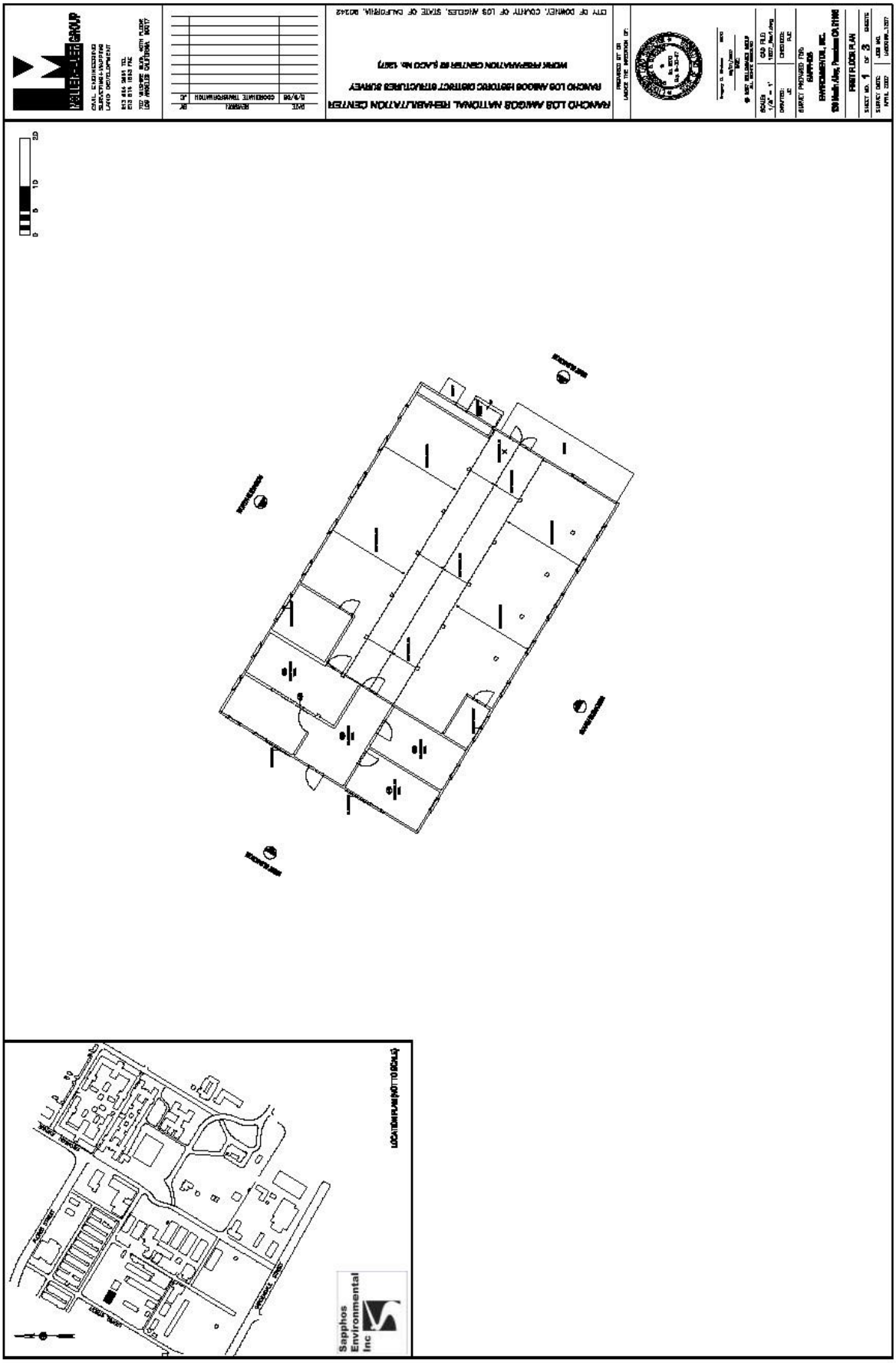
• **Roofing –** Replace entire corrugated and waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **3,946 s.f.**
• **Exterior walls –** Provide refurbished exterior corrugated metal panels over. 3" exterior insulation board.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **Pair entry doors to be replaced. 8'x6' hayloft door to be replaced.**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **24 -3'x4' wood windows** • **16 1x3 clearstory windows**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape. Perimeter exterior landscaping to be landscape and irrigation.	• **3,000 s.f.**

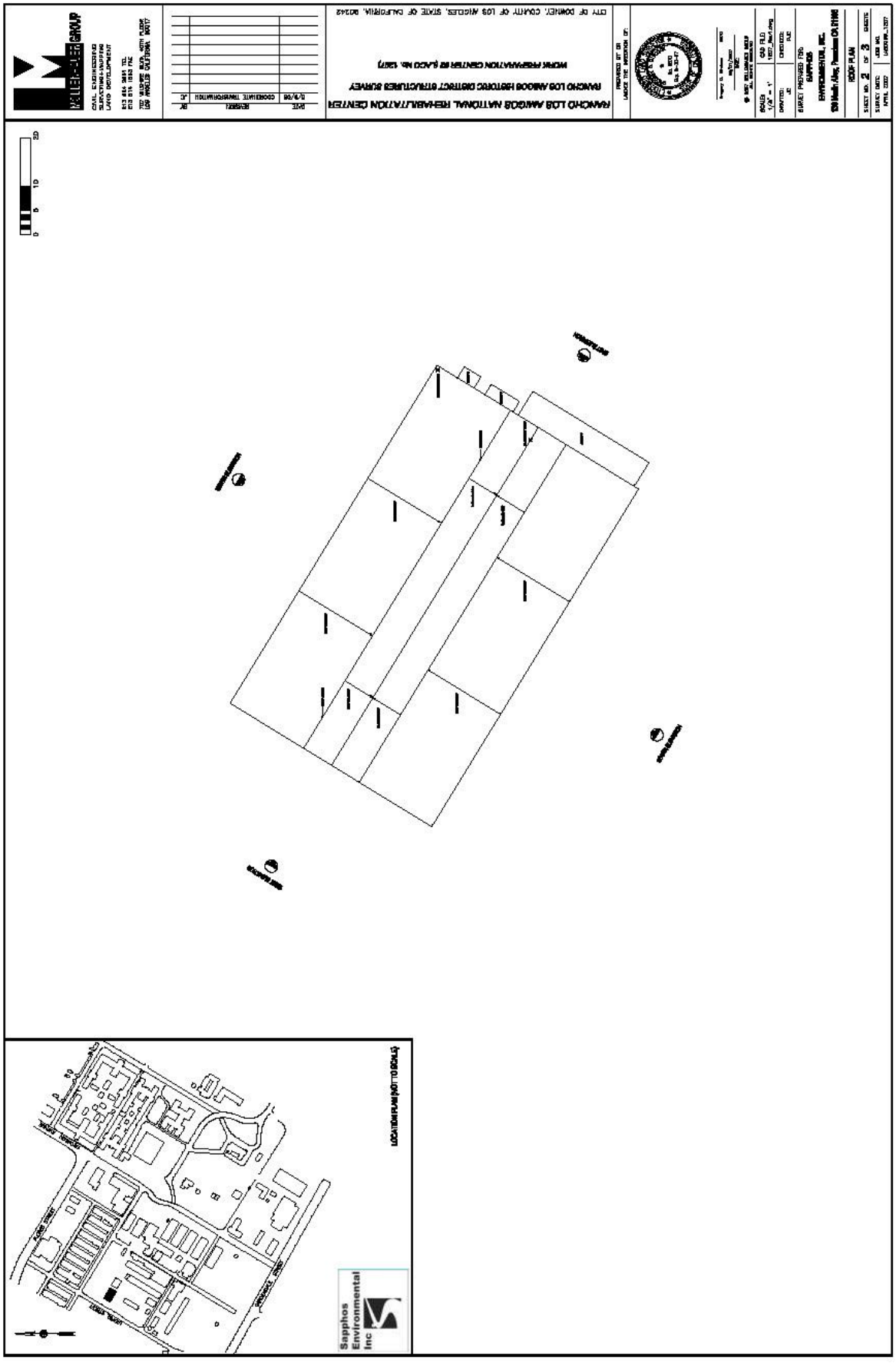
Interior spaces

The existing interior spaces were vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Interior plan remains intact.

• **Flooring –** Clean and patch existing concrete floor. Provide new concrete sealer throughout.	• **3,946 s.f.**
• **Walls –** Remove all damaged corrugated metal and replace in-kind per the Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling- Ceiling/Roof –** The roof was damaged because of water intrusion. Portions have exposed roof which has been severely damaged and exposed to elements. Refurbish and paint interior wood columns, wood beams and trusses.	• **3,946 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **20 lin. ft**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 5-ton high-efficiency HVAC system and controls ground mounted with hard flex throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **2 fixtures plus sink per gender.**
• **Electrical**- New 200 Amp system	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in one (1) locations and provide with new railings and new maximum slope of 8%.	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
Sapphos Environmental Inc


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
WORK PREPARATION CENTER #8 (LADO No. 1977)
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, 90242
MILLER-LEIN GROUP
Sapphos Environmental Inc
LOCATION PLAN (NOT TO SCALE)


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
WORK PREPARATION CENTER BR 6 (LACD No. 12871)
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, 90242
ROOF PLAN
LOCATION PLAN (NOT TO SCALE)
Sapphos Environmental Inc

East Elevation

Interior

1. Remove and replace corrugated metal siding.
2. Remove and replace metal awning assembly.
3. Remove and replace hayloft wood doors.
4. Remove and replace wood windows.
5. Paint and repair existing steel frame.
6. Remove and repair interior wood doors.
7. Remove all interior debris.
8. Remove all non-character defining elements and substructure.
9. Replace roof in entirety.

Portion of Roof Missing

South Interior Condition

1. Remove and replace corrugated metal siding.
2. Remove and replace metal awning assembly.
3. Remove and replace hayloft wood doors.
4. Remove and replace wood windows.
5. Paint and repair existing steel frame.
6. Remove and repair interior wood doors.
7. Remove all interior debris.
8. Remove all non-character defining elements and substructure
9. Replace roof in entirety.

C LACO No. 1207 (Work Preparation Center) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Work Preparation Center (LACO 1207)

MGAC

Feasibility Study Cost Plan — Work Preparation Center (LACO 1207)

			SF	$/SF	TOTAL $ x 1,000
B1	Work Preparation Center (LACO 1207)		3,946	218.70	863
SUB-TOTAL BUILDING CONSTRUCTION			3,946	218.70	863
S1	Sitework		3,000	71.00	213
	Premium for enhanced sustainable site features				16
SUB-TOTAL SITEWORK					229
TOTAL BUILDING AND SITEWORK					**1,092**
Escalation to Midpoint (Jul 2021)		11.7%			127
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			98
	Project Management Consultant Services	3.0%			40
	FF & E	5.8%			79
	Taxes and Indirect Fees	1.0%			14
	Building Permit and Other Agency Fees	1.5%			22
	Owner Contingency/Construction Contingency	25.0%			368
Recommended Budget					***1,840***

Feasibility Study Cost Plan — Work Preparation Center (LACO 1207) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	3,946		
TOTAL GROSS FLOOR AREA	**3,946**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.000
Gross Area		3,946	SF	1.000
Enclosed Area		3,946	SF	1.000
Footprint Area		3,946	SF	1.000
Volume		63,136	CF	16.000
Gross Wall Area		4,160	SF	1.054
Finished Wall Area		4,160	SF	1.054
Windows or Glazing	8%	336	SF	0.085
Roof Area - Sloping		4,200	SF	1.064
Roof Area - Total		4,200	SF	1.064
Interior Partitions		170	LF	0.043

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Feasibility Study Cost Plan — Work Preparation Center (LACO 1207) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	3,946 SF	
A10	Foundations		3%	6.53	26
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	6.53	26
B10	Superstructure		10%	22.77	90
B20	Exterior Enclosure		16%	35.56	140
B30	Roofing		10%	21.29	84
B	Shell		36%	79.62	314
C10	Interior Construction		4%	9.48	37
C20	Stairways		0%	0.00	0
C30	Interior Finishes		4%	8.87	35
C	Interiors		8%	18.35	72
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		9%	20.00	79
D30	Heating, Ventilation & Air Cond.		5%	10.00	39
D40	Fire Protection		3%	7.00	28
D50	Elect'l Lighting, Power & Comm.		9%	20.00	79
D	Services		26%	57.00	225
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	5.33	21
E	Equipment & Furnishings		2%	5.33	21
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		2%	4.37	17
F	Special Construction & Demolition		2%	4.37	17
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	171.21	676
Z10	Design Contingency	10.00%	8%	17.12	68
Z11	General Requirements	4.00%	3%	7.53	30
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	195.86	773
Z21	General Conditions	6.00%	5%	11.75	46
Z22	Bonds & Insurance	1.50%	1%	3.11	12
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	7.90	31
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	218.63	863
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	218.70	863

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Feasibility Study Cost Plan — Work Preparation Center (LACO 1207)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				10,000
Foundation upgrade	1	LS	10,000.00	10,000
A1020 Special Foundations				
A1030 Slab On Grade				15,784
Patch and repair existing concrete floor	3,946	SF	4.00	15,784
				25,784
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				49,960
Structural upgrade	1	LS	25,000.00	25,000
Plywood sheathing to exterior walls	4,160	SF	6.00	24,960
B1020 Roof Construction				39,900
Replace ward/damaged roof framing, allow 50%	2,100	SF	12.00	25,200
New roof sheathing	4,200	SF	3.50	14,700
				89,860
B20 Exterior Enclosure				
B2010 Exterior Walls				100,880
Repair existing corrugated metal wall panels including wood studs	4,160	SF	6.00	24,960
Painting to corrugated metal panels	4,160	SF	3.00	12,480

	Quantity	Unit	Rate	Total
Allow for insulated walls	4,160	SF	14.00	58,240
Loose fill insulation				*n/a*
Painting to interior face of exterior wall	4,160	SF	1.25	5,200
B2020 Exterior Windows				34,944
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	269	SF	100.00	26,880
New windows similar kind, high performance glazing; allow 20%	67	SF	120.00	8,064
B2030 Exterior Doors				4,500
New exterior doors				
Single leaf	1	EA	1,700.00	1,700
Double leaf	1	EA	2,800.00	2,800
				140,324
B30 Roofing				
B3010 Roof Coverings				84,000
New corrugated roofing system including flashing	4,200	SF	20.00	84,000
B3020 Roof Openings				
				84,000
C10 Interior Construction				
C1010 Partitions				17,000
Remove/repair damaged partitions	1,700	SF	10.00	17,000
C1020 Interior Doors				11,900
Allow for new doors	7	EA	1,700.00	11,900

	Quantity	Unit	Rate	Total
C1030 Fittings				8,500
Toilet partitions and accessories	4	EA	1,500.00	6,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	1	LS	2,500.00	2,500
				37,400
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				11,340
Repaint all interior walls and columns	7,560	SF	1.50	11,340
C3020 Floor Finishes				13,811
Provide new concrete sealer	3,946	SF	3.50	13,811
C3030 Ceiling Finishes				9,865
Provide batt insulation below roof structure	3,946	SF	2.50	9,865
				35,016
D10 Conveying Systems				
				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
Plumbing Systems	3,946	SF	20.00	78,920
				78,920
D30 Heating, Ventilation & Air Cond.				
Ventilation system	3,946	SF	10.00	39,460
				39,460
D40 Fire Protection				
D4010 Sprinklers				27,622
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	3,946	SF	7.00	27,622
				27,622
D50 Elect'l Lighting, Power & Comm.				
Electrical, Lighting, Power & Communication	3,946	SF	20.00	78,920
Photovoltaic panels				*n/a*
				78,920
E10 Equipment				
				0

	Quantity	Unit	Rate	Total
E20 Furnishings				
E2010 Fixed Furnishings				21,040
Cabinets, countertops shelving and millwork	20	LF	800.00	16,000
Window treatment	336	SF	15.00	5,040
				21,040
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				17,250
Exterior window	1	LS	300.00	300
Doors	9	EA	150.00	1,350
Remove entire corrugated roofing including roof sheathing	4,200	SF	1.50	6,300
Demo and interior partitions, floor, wall & ceiling finishes, built-up furnishing, toilet partition & accessories	1	LS	2,000.00	2,000
Allow for clearing/removal of storage debris	1	LS	1,000.00	1,000
Demo and remove deteriorated roof framing	2,100	SF	3.00	6,300
F2020 Hazardous Components Abatement				
Hazmat abatement - allowance				
				17,250

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Feasibility Study Cost Plan — Work Preparation Center (LACO 1207)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Work Preparation Center (LACO 1207)				
Gross Site Area	6,900	SF		
Building footprint	3,946	SF		
Net Site Area	3,000	SF		
General site clearing, demo and remove paving/landscaping	3,000	SF	4.00	12,000
Site paving, site structures, fencing, landscaping & irrigation	3,000	SF	25.00	75,000
Premium for permeable paving	1,500	SF	13.00	19,500
Remove/replace ramp including railings				n/a
Site lighting and drainage	3,000	SF	5.00	15,000
Site Utilities	3,000	SF	15.00	45,000
Alternate Cost Before Markups				**166,500**
Z10 Design Contingency	10.00%			16,650
Z11 General Requirements	4.00%			7,326
Z21 General Conditions	6.00%			11,429
Z22 Bonds & Insurance	1.50%			3,029
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,685
Z30 See Overall Summary for Escalation	0.00%			
				212,618

D LACO No. 1207 (Work Preparation Center) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Work Preparation Center #1207

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Work Preparation Center (LACO #1207) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Work Preparation Center #1207 is provided as part of the Feasibility Study with

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

additional information about the value and significance of specific features, materials, and finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Work Preparation Center (LACO #1207), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or

	braced or reinforced.	alternative standards under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	Building has no gutters as part of the original structure; roof consists corrugated metal as a water shed.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away.

		Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.
M-6	Are walls in good condition to seal out moisture?	No. Exterior corrugated metal walls show corrosion and serious damage exposed to the elements. The damaged areas will have to be completely rebuilt; protecting those areas may not be feasible.
M-7	Is siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior metal corrugated siding needs substantial repair.
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is

		unrealistic to expect that the population will be reduced to zero. SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

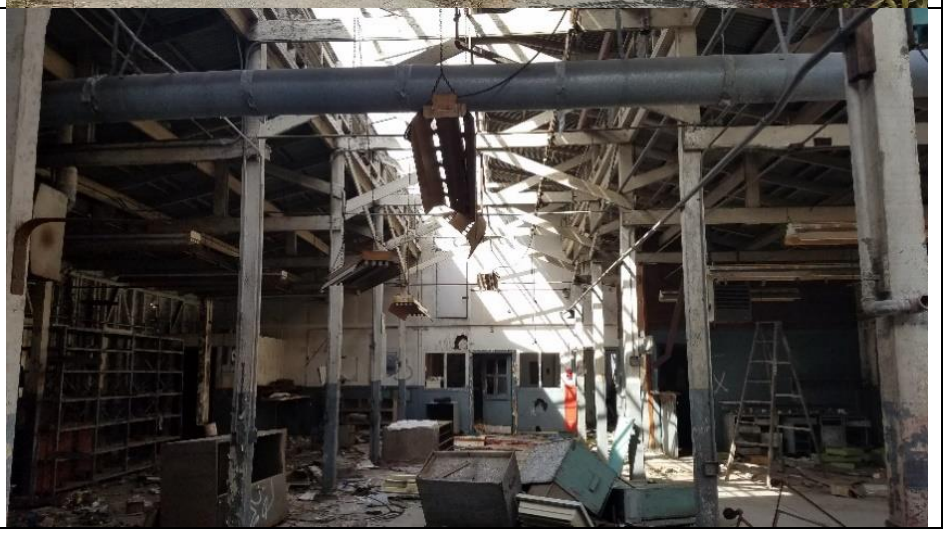
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department* *Install manual fire extinguishers attached to the exterior of the building at each personnel*

		door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors.

		No action required
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit

		action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Southeast elevation	
2	Interior skylight structure	

3	Interior perimeter wall and missing roof.	
4	Interior debris throughout.	

E LACO No. 1207 (Work Preparation Center) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Work Preparation Center (LACO 1207)

MGAC

Mothballing Cost Plan — Work Preparation Center (LACO 1207)

			SF	$/SF	TOTAL $ x 1,000
B1	Work Preparation Center (LACO 1207)		3,946	43.34	171
TOTAL BUILDING CONSTRUCTION			3,946	43.34	171
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**171**
Escalation to Midpoint (Jul 2021)		11.7%			20
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			8
	Project Management Consultant Services	2.0%			4
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			3
	Owner Contingency/Construction Contingency	10.0%			21
Recommended Budget					***229***

MGAC

Mothballing Cost Plan — Work Preparation Center (LACO 1207)

Item Description	Quantity	Unit	Rate	Total
1.) Work Preparation Center (LACO 1207)				
No of floors	***1***	***EA***		
Gross Floor Area	***3,946***	***SF***		
Gross Wall Area	***4,160***	***SF***		
Roof Area	***4,200***	***SF***		
Windows Area	***336***	***SF***		
Gross Site Area	***6,900***	***SF***		
Building footprint	***3,946***	***SF***		
Net Site Area	***3,000***	***SF***		
Stabilized structure	3,946	SF	1.50	5,919
Repaint exterior walls	4,160	SF	3.00	12,480
Protect existing openings (exterior doors)	3	EA	800.00	2,400
Install hard protection/boarding to windows	336	SF	25.00	8,400
Seal all openings to eliminate small animals and pests from entering and nesting in the building	4,160	SF	5.00	20,800
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	4,200	SF	15.00	63,000
Termites, ants, rodents etc - inspection and allowance for treatment	3,946	SF	0.25	987
Install smoke & fire detectors including wiring	3,946	SF	1.25	4,933
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	3,946	SF	0.75	2,960
Clear site of weeds and overgrown trees	3,000	SF	0.50	1,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**133,428**
Z10 Design Contingency	15.00%			20,014
Z11 General Requirements	3.00%			4,603
Z21 General Conditions	3.00%			4,741
Z22 Bonds & Insurance	1.50%			2,442
Z23 Contractor's Overhead, Profit & Fee	3.75%			6,196
Z30 See Overall Summary for Escalation	0.00%			
				171,424

Feasibility Study Reports for LACO No. 1260 (Bathhouse and Ward)

Primary Contributor

ESA

A LACO No. 1260 (Bathhouse and Ward) – Architectural Assessment Report

Bathhouse and Ward (LACO 1260)

10,148 s.f.
Primary Contributor to the Historic district

Building Description

The Bathhouse and Ward (LACO No. 1260) is located on the south side of Descanso Street between Erickson Avenue and Juniper Street. Reflecting the influence of the Classical Revival style, the Bathhouse and Ward building is a two story, regular if not symmetrical in appearance and rectangular in plan. A flat roof caps the building; the roof is hidden by a parapet, which rises from a slightly projecting cornice. The building sits on a concrete slab foundation and its exterior walls are reinforced concrete covered in textured painted stucco. A blind arcade defines two bays on the east and west elevations and eight bays on the north and south elevations. The fenestration generally consists of two windows in each bay on each level on the north and south elevations. The east façade is distinguished by a covered balcony accessed by a lateral staircase. The corresponding balcony on the west elevation was enclosed by windows at an early date. Window types include original one-over-one, double-hung sash with and without transoms and non-original metal casements. Some window openings have been enclosed and an air conditioning unit installed. Due to the interior spatial divisions of the Bathhouse and Ward, there is no defined primary entrance. Instead, entrances are located on the north and south elevations and are accessed by a raised concrete ramp with metal pipe railings. Original wood doors include (where extant): single veneered, glazed doors with and without transoms and double veneered and glazed doors with and without transoms. Replacement metal doors are located throughout the building. The property is in deteriorated condition with its doors and windows boarded with plywood.[1]

Statement of Significance

The significance of LACO No. 1260 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> The Bathhouse and Ward 30 (LACO No. 1260) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1922 during a large building initiative in the 1920s under the Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933-1952). Constructed as a bathhouse and restroom facility for the male patients at the County Poor Farm, the building was converted to storage for the Los Angeles County Material Management Department in the late 20th century.

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[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Bathhouse and Ward (LACO No. 1260),* prepared for the County of Los Angeles June 2, 2008.

Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. An example of stripped Classicism, the building retains integrity of location, feeling, association, design, materials, and workmanship. Most of its character-defining features are intact, including the vertical division of the exterior walls into two-story, segmental arched bays by plain raised piers and the horizontal division of the exterior into three parts by a simple cornice topped by a parapet and raised wall base. Its setting has been altered through the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has a built-up roof system. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof,	• **5,000 s.f.**

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Bathhouse and Ward (LACO No. 1260),* prepared for the County of Los Angeles June 2, 2008.

eaves, and gutters – are in need of repair or replacement.	
• **Exterior walls –** Exterior plaster over concrete is damaged in minimal areas. It is repairable in most areas. Repair 10%, paint entire structure.	• **9,000 s.f.**
• **Exterior trim –** Minimal trim is on exterior walls. Primarily at window sills, and exterior steel handrails.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **5 pair, 3' steel doors and frames** • **5-3' steel doors and frames**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **72 steel windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **10,148 s.f.**
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Many of walls vandalized but repairable.	• **12,000 s.f.**
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **10,148 s.f.**

• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace and provide a new single ply roof assembly. Replace existing substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing. Apply moisture barrier to underside of roof structure.	• **5,000 s.f..**
• **Exterior walls**- Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damages at interior faces.	• **12,000 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove rust, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **72 steel windows**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building.	• **5,000 s.f. courtyard.**

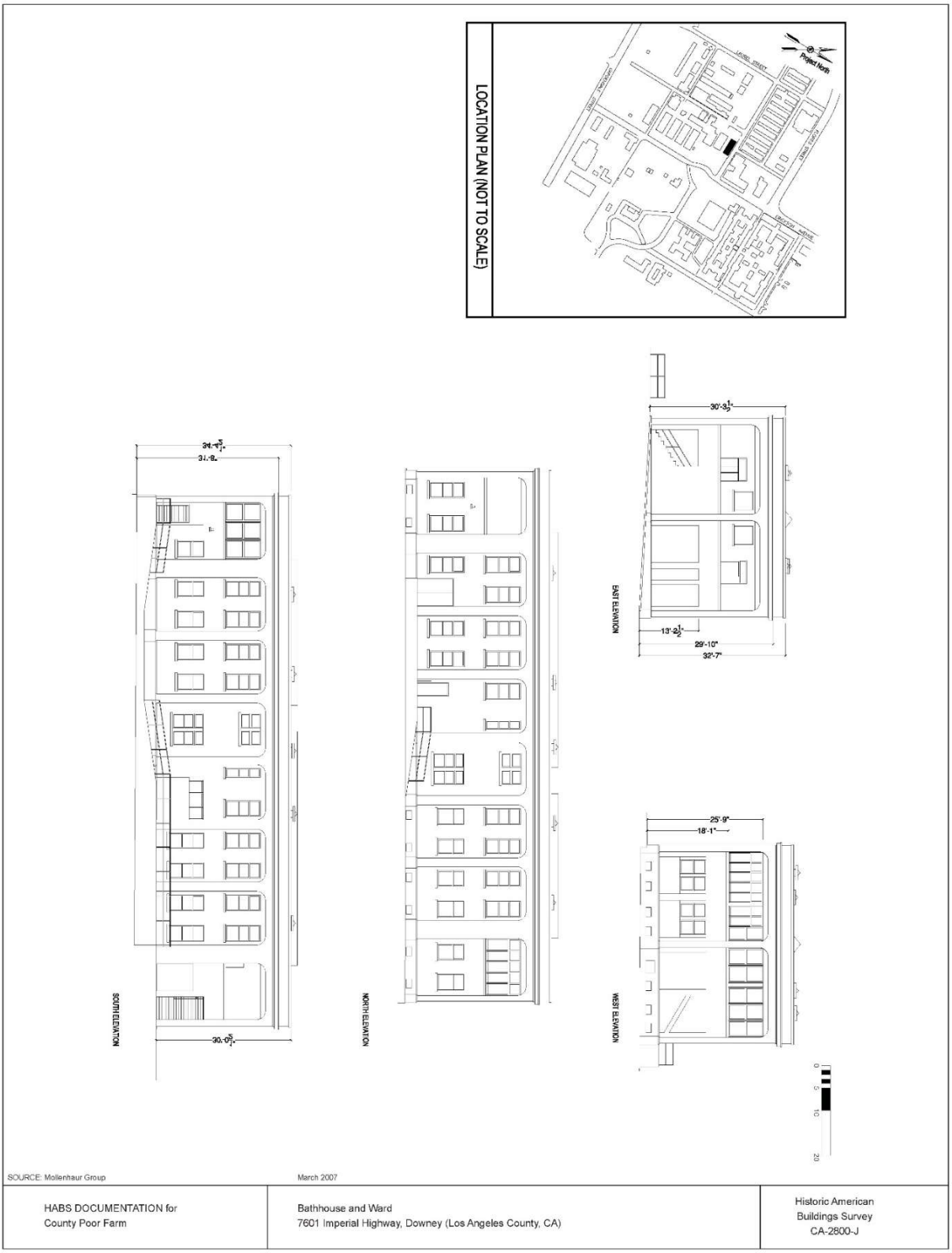
Interior Spaces

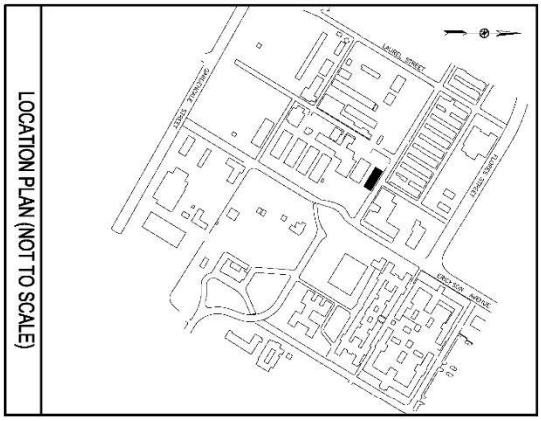
The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

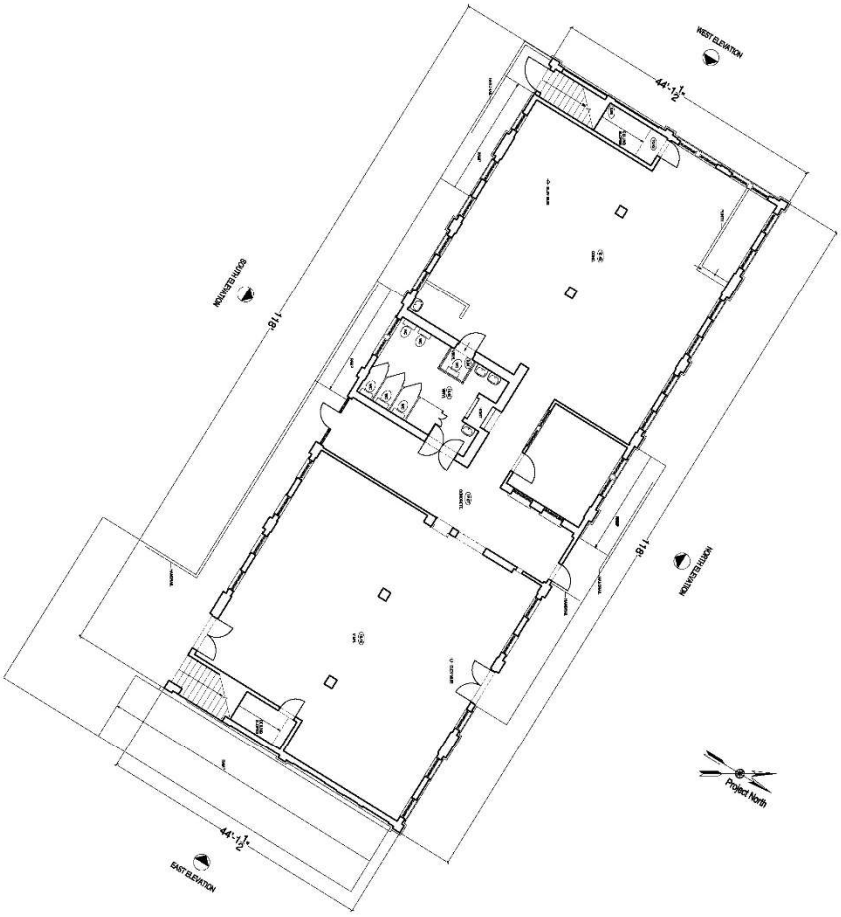
It is assumed that this 10,148 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace second floor with new concrete flooring.	• **10,148 s.f.** • **(25% replacement)**
• **Walls –** Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow clay tile walls to be encapsulated with 4" 16 ga. Studs and gyp bd.	• **10,000 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **10,148 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **300 lf.**
• **Lighting-** New high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 30-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **2 new restroom cores. 6 fixtures total.**
• **Elevator –** Provide new 3,000 lb. elevator.	• **(1) 3,000 lb. elevator**

• **Electrical** – Provide new 1000 Amp system.	
• **Title 24/ADA requirements –** New restrooms, path of travel, doors and hardware throughout. Remove and replace exterior railing and provide with new ramp and railings and new maximum slope of 8%	

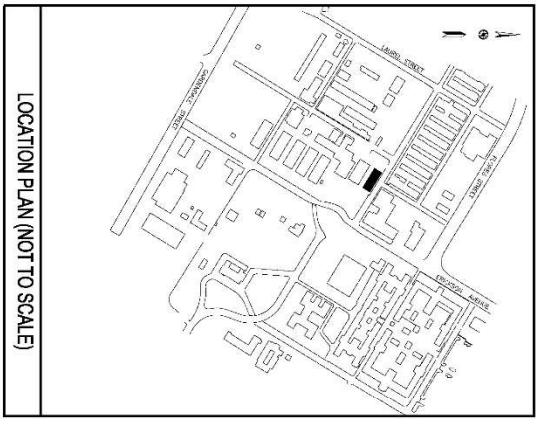

LOCATION PLAN (NOT TO SCALE)
Project North
SOUTH ELEVATION
NORTH ELEVATION
EAST ELEVATION
WEST ELEVATION
30'-3½"
13'-2½"
29'-10"
32'-7"
25'-9"
18'-1"
30'-0⅝"
0
5
10
20
SOURCE: Mollenhaur Group
March 2007
HABS DOCUMENTATION for
County Poor Farm
Bathhouse and Ward
7601 Imperial Highway, Downey (Los Angeles County, CA)
Historic American
Buildings Survey
CA-2800-J

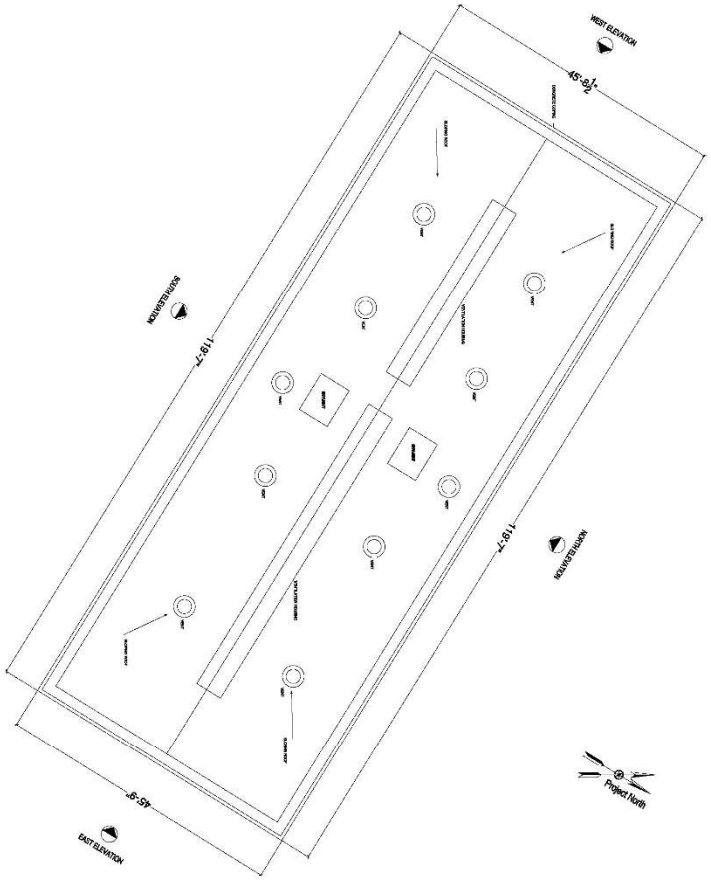




SOURCE: Mollenhaur Group March 2007

HABS DOCUMENTATION for County Poor Farm	Bathhouse and Ward 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-J





SOURCE: Mollenhaur Group March 2007

HABS DOCUMENTATION for County Poor Farm	Bathhouse and Ward 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-J

Southeast Corner of Bathhouse and Ward

Stairs and Railing to Upper Deck

1. Clean and paint plaster.
2. Provide new handrails.
3. Remove existing debris.
4. Repair and provide new plaster ceiling.
5. Repair structure.

Interior Damage

Damaged Ceiling

1. Clean and paint plaster.
2. Provide new handrails.
3. Remove existing debris.
4. Repair and provide new plaster ceiling.
5. Repair structure.

B LACO No. 1260 (Bathhouse and Ward) – Structural Assessment Report

Structural Assessment: Bathhouse and Ward Building
(LACO NO. 1260)

Summary of Assessment

The Bathhouse and Ward building was constructed in 1928. It is a two-story rectangular reinforced concrete building. The majority of the interior walls appear to be made of hollow clay tile infill. The building footprint is about 118 feet by 44 feet, and the total floor area of the building is approximately 10,148 square feet. The Bathhouse and Ward building stands 32.5 feet in height.

The building is in poor condition and displays signs of significant deterioration throughout the building interior and exterior. The expected seismic performance of this building, in its current condition, is poor. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of LACO No. 1260. A detailed summary of these measures is included in the final section of this report. However, retrofitting older, nonductile concrete structures to meet a Life Safety Performance Level requires extensive inspection, materials testing, and strengthening.

Description of the Building

The building is constructed with reinforced concrete walls and concrete floor and roof slabs. The amount of reinforcement in the slabs is unknown. These slabs are supported by concrete beams and columns. Exterior elevations are shown in Figure 1 and Figure 2. The majority of the interior walls appear to be made of hollow clay tile infill (Figure 3 and Figure 4[1]), and it is expected that many of these walls are intended as shear and or bearing walls. The first floor is raised and sits on stem walls, creating a crawl space. Concrete stairs provide access to the second floor at the front entrance and back room of the building. There are balconies at both the front and the back of the building. The front balcony is open on three sides, while the back balcony has window coverings. The corrosion found in much of the roof slab, discussed later, may be due to insufficient roof drainage at the building.

Condition Assessment

Much of the concrete in this building is deteriorated. There is extensive cracking throughout the building, most likely due to a combination of shrinkage, creep, corroding reinforcement, and movement and stresses induced during previous nearby earthquakes. Concrete spalling is visible on the underside of the concrete floor slab where exposed reinforcement can be seen from the crawl space (Figure 5). Calcium deposits are also visible at the beam joints and all around the lower portion of the column. This is caused by long term exposure to significant amounts of moisture, possibly flooding. Similar deposits and spalling are found throughout the structure. Damage was also noted at the top of the first-floor slab, as seen in Figure 6.

Delamination was observed where reinforcement has corroded and expanded due to exposure to the elements. This change in the reinforcement dislodges the protective concrete. The condition worsens as the cracks get larger, allowing more moisture to infiltrate the concrete easily. Figure 7 shows delamination and exposed reinforcement of a second-floor concrete beam, while Figure 8 shows delamination and cracking of an exterior concrete column.

Significant plaster cracks were evident during observation. For many cracks, such as the one shown in Figure 9, further investigation would be required to determine if it is purely cosmetic or if it could indicate structural weakness or damage. Some cracks propagate across openings. These cracks most likely developed from movement of the building, likely due to previous earthquakes. These cracks are indicative of insufficient reinforcement at the piers. In one location, a crack is visible at the perimeter of the second-floor slab and follows the wall line and column (Figure 10).

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

There is also a significant crack at the supporting column. Both of these cracks show the weakness of concrete and under-reinforcement typical of buildings built during this time. These cracks could indicate a serious risk of partial collapse and these areas should be strengthened.

Deterioration was apparent in the patio ceiling (Figure 11 and Figure 12). The broken ceiling fell due to water leaks. The water leaks have corroded the steel pipe, affecting much of the material around it, including the concrete structure. Prolonged exposure to abundant moisture may have caused a significant reduction in strength in the already under-reinforced members. Further investigation and testing would be required to determine the amount of corrosion in the rebar and the remaining strength in this portion of the structure. Severe deterioration and damage were also seen at the interior first-floor ceiling (Figure 13 and Figure 14).

Several of the interior hollow clay tile infill walls are damaged or broken (Figure 15). Though the cause of the damage is unknown, it could be partially due to poor construction or high exposure to water. Additionally, past earthquakes may have subjected it to stresses large enough to cause partial failure. Even in cases where the walls appear to be intact, they are likely weak and in need of replacement. Hollow clay tile walls are extremely brittle and generally not suitable for shear or bearing walls. Additionally, hollow clay tile walls are known to be a high-risk potential falling hazard; the walls are likely to collapse, break into many pieces, and obstruct egress. It is highly recommended that all hollow clay tile walls be removed and replaced. If there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to encapsulate the wall and mitigate the potential falling hazard.

Evaluation of Structural Performance

This building has a good geometrical shape, no vertical discontinuities, and no uneven masses. This simple symmetric design would help avoid a concentration of stresses in the event of an earthquake. The ASCE 41 quick checks indicate there may be a possible deficiency in the shear walls. The walls may be overstressed in the event of a moderate earthquake. It is not known if the existing concrete columns would maintain integrity during the movement caused by a moderate earthquake. Typical column construction of the 1920's would indicate that the column ties are not sufficient. The balcony open on three sides is expected to require significant strengthening. Though construction documents are not available, based on the amount of deterioration, cracking, and knowledge of construction typical of this time, it can be assumed that the majority of the building structure would require extensive strengthening.

The diaphragms are continuous, but proper anchorage to the columns and walls may need to be added. The diaphragm itself may need to be strengthened where the rebar is exposed or insufficient. The structural performance of this building in a moderate earthquake is expected to be very poor. Much of this has to do with damage already incurred in previous earthquakes. There is a potential risk of the parapet bricks dislodging, causing falling hazards, and partial or total collapse of the slabs, columns, or walls. Significant investigation, testing, and analysis would be necessary to determine what areas meet a Life Safety Performance Level and to quantify how much corrosion has already occurred in the existing structure. The hollow clay tile interior walls are expected to provide little to no lateral resistance in an earthquake and are generally considered insufficient even for gravity bearing loads. These walls, in their current condition, are subject to continued damage and likely to collapse in a seismic event.

Summary of Proposed Upgrades

The expected seismic performance of this building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the building and its concrete walls. Strengthening will likely be needed on every wall on the majority of the wall's surface area. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Shotcrete existing concrete walls and piers. Shotcrete is expected to be needed at all perimeter walls, most likely covering the walls' full surface area. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the existing concrete wall to properly connect the wall to the shotcrete.
- Install new concrete frames or concrete shear walls at the building interior to reduce stresses on existing walls. Concrete footings would need to be installed beneath new frames and walls. This approach may compromise the large open areas of the floor plan.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient for providing protection of character-defining features and increasing performance and strength compared to the other methods of strengthening.
- Although infill of existing wall openings (windows and doors) would improve performance, it would likely not be sufficient on its own. Furthermore, it is anticipated that such a solution would be incompatible with retention of the character-defining features identified for this building.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Where the hollow clay tile walls are used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in case of damage or collapse.
- Where shotcrete or FRP is not being added, install vertical and/or horizontal steel strongbacks for out-of-plane bending. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. Anchors would need to be drilled into the concrete to properly connect the walls to the strongbacks. The interior elevations of the walls would be visually obstructed by a network of steel tube framing.

Diaphragm

- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Test and analyze all slabs; strengthen the slabs as needed.

General Condition

- Replace the deteriorated concrete. Patch and grout the reinforced concrete that appears to be spalling and cracking at the floor, roof, and walls. In areas where reinforcement is severely corroded and may be structurally compromised, additional strengthening or remediation may be required.
- Apply moisture sealant as needed to the underside of the roof and floor to further protect reinforcement with inadequate concrete cover.
- Provide adequate roof drainage where needed to ensure minimal exposure to water at the roof slab.
- Provide additional bracing for the brick masonry parapets, if required. This could likely be done so that the bracing is located solely on the interior side of the parapets. Anchors would need to be drilled and installed into the brick masonry. The appearance of the interior elevation of the parapets would be affected, but the exterior character-defining visual appearance of the building would be maintained.
- Strengthen column-beam connections as needed with shotcrete or FRP.

Figure 1: Exterior elevation, south side

Figure 2: Exterior elevation, north side

Figure 3: Hollow clay tile interior wall

Figure 4: Damaged hollow clay tile wall

Figure 5: Underside of first floor slab at crawl space

Figure 6: Damaged floor slab, top of slab

Figure 7: Delamination and spalling at concrete beam

Figure 8: Delamination crack at exterior concrete column

Figure 9: Cracking at interior wall

Figure 10: Perimeter crack at slab and column

Figure 11: Second-floor patio, shown at northeast corner

Figure 12: Fallen ceiling at the second-floor patio

Figure 13: Damaged interior ceiling

Figure 14: Damaged interior ceiling

Figure 15: Damaged hollow clay tile wall

C LACO No. 1260 (Bathhouse and Ward) – Preservation/Adaptive Reuse Cost Plan

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Feasibility Study Cost Plan

Bathhouse and Ward (LACO 1260)

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Feasibility Study Cost Plan — Bathhouse and Ward (LACO 1260)

			SF	$/SF	TOTAL $ x 1,000
B1	Bathhouse and Ward (LACO 1260)		10,148	556.96	5,652
SUB-TOTAL BUILDING CONSTRUCTION			10,148	556.96	5,652
S1	Sitework		5,000	88.80	444
	Premium for enhanced sustainable site features				91
SUB-TOTAL SITEWORK					535
TOTAL BUILDING AND SITEWORK					**6,187**
Escalation to Midpoint (Jul 2021)		11.7%			722
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			553
	Project Management Consultant Services	3.0%			224
	FF & E	5.8%			446
	Taxes and Indirect Fees	1.0%			81
	Building Permit and Other Agency Fees	1.5%			123
	Owner Contingency/Construction Contingency	25.0%			2,084
Recommended Budget					***10,420***

Feasibility Study Cost Plan — Bathhouse and Ward (LACO 1260) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,074		
Level 2	5,074		
TOTAL GROSS FLOOR AREA	**10,148**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		2	EA	0.000
Gross Area		10,148	SF	1.000
Enclosed Area		10,148	SF	1.000
Footprint Area		5,074	SF	0.500
Gross Wall Area		10,000	SF	0.985
Finished Wall Area		10,000	SF	0.985
Windows or Glazing	19%	1,900	SF	0.187
Roof Area - Flat		5,100	SF	0.503
Roof Area - Total		5,100	SF	0.503
Roof Glazing Area		0	SF	-
Interior Partitions		380	LF	0.037
Finished Area		10,148	SF	1.000

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Feasibility Study Cost Plan — Bathhouse and Ward (LACO 1260) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	10,148 SF	
A10	Foundations		3%	17.46	177
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	17.46	177
B10	Superstructure		18%	100.25	1,017
B20	Exterior Enclosure		8%	43.81	445
B30	Roofing		2%	12.31	125
B	Shell		28%	156.37	1,587
C10	Interior Construction		3%	15.90	161
C20	Stairways		1%	2.96	30
C30	Interior Finishes		8%	45.89	466
C	Interiors		12%	64.75	657
D10	Conveying Systems		2%	9.85	100
D20	Plumbing Systems		3%	19.02	193
D30	Heating, Ventilation & Air Cond.		9%	51.29	520
D40	Fire Protection		1%	7.00	71
D50	Elect'l Lighting, Power & Comm.		16%	87.00	883
D	Services		31%	174.17	1,767
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	10.73	109
E	Equipment & Furnishings		2%	10.73	109
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		2%	12.69	129
F	Special Construction & Demolition		2%	12.69	129
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	436.17	4,426
Z10	Design Contingency	10.00%	8%	43.62	443
Z11	General Requirements	4.00%	3%	19.19	195
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	498.98	5,064
Z21	General Conditions	6.00%	5%	29.94	304
Z22	Bonds & Insurance	1.50%	1%	7.93	81
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	20.13	204
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	556.98	5,652
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	556.96	5,652

Feasibility Study Cost Plan — Bathhouse and Ward (LACO 1260)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				117,140
Foundation upgrade	5,074	SF	10.00	50,740
Foundation for new shearwalls	88	LF	300.00	26,400
New elevator pit	1	LS	40,000.00	40,000
A1020 Special Foundations				
A1030 Slab On Grade				60,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 50%	2,000	SF	30.00	60,000
Remove/replace ramp including railings				*site*
				177,140
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				915,312
Strengthen connections between floors and lateral elements	5,074	SF	10.00	50,740
Allow shotcrete to interior face of exterior walls	10,000	SF	40.00	400,000
Allow for new concrete shearwalls	3,000	SF	75.00	*225,000*
Elevator corewalls	1,300	SF	75.00	97,500
Patch/repair damaged suspended slab, allow 50%	2,537	SF	50.00	126,850
Allow for moisture sealant (2F slab)	5,074	SF	3.00	15,222
Lightweight concrete topping, 1-1/2"				n/a

	Quantity	Unit	Rate	Total
B1020 Roof Construction				102,000
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	5,100	SF	20.00	102,000
				1,017,312
B20 Exterior Enclosure				
B2010 Exterior Walls				216,000
Patch, repair plaster exterior walls, allow 40%	4,000	SF	14.00	56,000
Painting to exterior walls	10,000	SF	3.00	30,000
Loose fill insulation				n/a
Plaster and repaint interior face of exterior walls	10,000	SF	13.00	130,000
B2020 Exterior Windows				216,600
Strip and retrofit existing steel framed windows, replace hardware, install new high performance glazing	1,520	SF	110.00	167,200
New windows similar kind, high performance glazing, allow 20%	380	SF	130.00	49,400
B2030 Exterior Doors				12,000
New exterior doors	4	EA	3,000.00	12,000
				444,600
B30 Roofing				
B3010 Roof Coverings				124,950
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	5,100	SF	24.50	124,950
				124,950

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Feasibility Study Cost Plan — Bathhouse and Ward (LACO 1260)

	Quantity	Unit	Rate	Total
C10 Interior Construction				
C1010 Partitions				60,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	1,500	SF	40.00	60,000
C1020 Interior Doors				36,800
New wood doors including frames and hardware	16	EA	2,300.00	36,800
C1030 Fittings				64,592
Toilet partitions and accessories	12	EA	2,000.00	24,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	10,148	SF	4.00	40,592
				161,392
C20 Stairways				
C2010 Stair Construction				20,000
Repair existing stairs and railing	2	EA	10,000.00	20,000
C2020 Stair Finishes				10,000
New stair finishes	2	EA	5,000.00	10,000
				30,000
C30 Interior Finishes				
C3010 Wall Finishes				39,520
Repair damaged wall plaster and repaint - interior partitions, allow 30%	2,000	SF	14.00	28,000
Ceramic wall tiles to toilets	640	SF	18.00	11,520
C3020 Floor Finishes				71,036
New floor finishes including base	10,148	SF	7.00	71,036
Existing flooring to remain, allow for cleaning				*n/a*

	Quantity	Unit	Rate	Total
C3030 Ceiling Finishes				355,180
New gypsum plaster ceiling on wood lathe	10,148	SF	35.00	355,180
				465,736
D10 Conveying Systems				
D1010 Elevators & Lifts				100,000
Passenger elevator, 2 stops	1	EA	100,000.00	100,000
				100,000
D20 Plumbing Systems				
D2010 Plumbing Fixtures				28,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	14	EA	2,000.00	28,000
D2020 Domestic Water Distribution				52,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	14	EA	3,000.00	42,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				72,444
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	10,148	SF	2.00	20,296
Condensate drainage pipework, fittings, < = 1-1/2", insulated	10,148	SF	1.00	10,148
Waste, vent, fittings, < = 6"	14	EA	3,000.00	42,000

	Quantity	Unit	Rate	Total
D2040 Rain Water Drainage				30,444
Surface water drainage				
Roof & overflow drains, < = 6"	10,148	SF	3.00	30,444
D2090 Other Plumbing Systems				10,148
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	10,148.00	10,148
				193,036
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				110,156
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	500	mbth	27.50	13,750
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	10,148	SF	1.50	15,222
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	10,148	SF	8.00	81,184
D3040 Distribution Systems				230,550
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	12,685	LB	12.00	152,220
Dampers	1	LS	15,222.00	15,222
Insulation	9,514	SF	4.50	42,812
Diffusers, registers and grilles	10,148	SF	2.00	20,296
D3050 Terminal & Package Units				115,148
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	30	Ton	3,500.00	105,000
VAV boxes, terminal reheat (1/1,000 SF)	10	EA	1,000.00	10,148

	Quantity	Unit	Rate	Total
D3060 Controls and Instrumentation				45,666
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	10,148	SF	4.50	45,666
D3070 Systems Testing & Balancing				15,222
Test and balance air systems	10,148	SF	1.50	15,222
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				520,492

D40 Fire Protection

D4010 Sprinklers				71,036
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	10,148	SF	7.00	71,036
				71,036

D50 Elect'l Lighting, Power & Comm.

D5010 Electrical Service & Distribution				248,643
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,000	AM	65.00	65,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels	15	KW	5,000.00	75,000

	Quantity	Unit	Rate	Total
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	10,148	SF	3.50	35,518
D5020 Lighting & Branch Wiring				405,920
User convenience power				
Panel board breakers, 120 V circuits	10,148	SF	2.00	20,296
Receptacles, including conduit and cable	10,148	SF	5.50	55,814
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	10,148	SF	27.50	279,070
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	10,148	SF	5.00	50,740
D5030 Communications & Security				142,072
Telephone and communications				
Telephone/data - including conduit & cable	10,148	SF	6.50	65,962
WAP	10,148	SF	1.00	10,148
DAS - Emergency response & cellular	10,148	SF	4.00	40,592
Cable tray/wire-way/j-hooks	10,148	SF	1.00	10,148
Audiovisual rough-in	10,148	SF	1.50	15,222
D5090 Other Electrical Systems				86,258
Fire alarm systems	10,148	SF	4.50	45,666
Security - perimeter access control & CCTV surveillance	10,148	SF	4.00	40,592
				882,893

E10 Equipment

				0

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Feasibility Study Cost Plan — Bathhouse and Ward (LACO 1260)

	Quantity	Unit	Rate	Total
E20 Furnishings				
E2010 Fixed Furnishings				108,900
Cabinets, countertops shelving and millwork	70	LF	1,000.00	70,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	1,900	SF	15.00	28,500
Entrance mat	1	LS	5,000.00	5,000
				108,900
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				52,650
Exterior windows	380	SF	5.00	1,900
Doors	4	EA	150.00	600
Built-up roofing including roof sheathing	5,100	SF	2.00	10,200
Demo/remove 75% of existing partitions	4,600	SF	3.00	13,800
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	10,148	SF	2.50	25,370
Allow for clearing/removal of storage debris	12	MH	65.00	780
F2020 Hazardous Components Abatement				76,110
Hazmat abatement - allowance	10,148	SF	7.50	76,110
				128,760

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Feasibility Study Cost Plan — Bathhouse and Ward (LACO 1260)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Bathhouse and Ward (LACO 1260)				
Gross Site Area	10,100	SF		
Building footprint	5,074	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	25.00	125,000
Premium for permeable paving	2,500	SF	13.00	32,500
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	5,000	SF	6.00	30,000
Site Utilities	5,000	SF	25.00	125,000
Alternate Cost Before Markups				**347,500**
Z10 Design Contingency	10.00%			34,750
Z11 General Requirements	4.00%			15,290
Z21 General Conditions	6.00%			23,852
Z22 Bonds & Insurance	1.50%			6,321
Z23 Contractor's Overhead, Profit & Fee	3.75%			16,039
Z30 See Overall Summary for Escalation	0.00%			
				443,753

D LACO No. 1260 (Bathhouse and Ward) – Mothballing Plan Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Bathhouse and Ward #1260

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Bathhouse and Ward (LACO #1260) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Bathhouse and Ward #1260 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Bathhouse and Ward (LACO #1260), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project, light gauge prefinished aluminum components are an acceptable alternative to a more durable construction system. Provide rain leader*

		extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department.* *Install manual fire extinguishers attached to the exterior of the building at each personnel*

		door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully	Yes. County staff stated that all utility

	inspected water, gas, and electric lines?	services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage

		• check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
MC-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
MC-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Main entrance door and stairway to balcony	
2	Concrete stairway and railing.	

3	Interior damage and debris	
4	Typical interior	

E LACO No. 1260 (Bathhouse and Ward) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Bathhouse and Ward (LACO 1260)

MGAC

Mothballing Cost Plan — Bathhouse and Ward (LACO 1260)

			SF	$/SF	TOTAL $ x 1,000
B1	Bathhouse and Ward (LACO 1260)		10,148	25.03	254
TOTAL BUILDING CONSTRUCTION			10,148	25.03	254
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**254**
Escalation to Midpoint (Jul 2021)		11.7%			30
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			11
	Project Management Consultant Services	2.0%			6
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			3
	Building Permit and Other Agency Fees	1.5%			5
	Owner Contingency/Construction Contingency	10.0%			31
Recommended Budget					***340***

MGAC

Mothballing Cost Plan — Bathhouse and Ward (LACO 1260)

Item Description	Quantity	Unit	Rate	Total
1.) Bathhouse and Ward (LACO 1260)				
No of floors	***2***	***EA***		
Gross Floor Area	***10,148***	***SF***		
Gross Wall Area	***10,000***	***SF***		
Roof Area	***5,100***	***SF***		
Windows Area	***1,900***	***SF***		
Gross Site Area	***10,100***	***SF***		
Building footprint	***5,074***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	10,148	SF	1.50	15,222
Repaint exterior walls	10,000	SF	2.00	20,000
Protect existing openings (exterior doors)	5	EA	800.00	4,000
Install hard protection/boarding to windows	1,900	SF	25.00	47,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	10,000	SF	0.10	1,000
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	5,100	SF	15.00	76,500
Termites, ants, rodents etc - inspection and allowance for treatment	10,148	SF	0.25	2,537
Install smoke & fire detectors including wiring	10,148	SF	1.00	10,148
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	4	EA	275.00	1,100
Remove debris and broom clean	10,148	SF	0.75	7,611
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**197,618**
Z10 Design Contingency	15.00%			29,643
Z11 General Requirements	3.00%			6,818
Z21 General Conditions	3.00%			7,022
Z22 Bonds & Insurance	1.50%			3,617
Z23 Contractor's Overhead, Profit & Fee	3.75%			9,177
Z30 See Overall Summary for Escalation	0.00%			
				253,894

Feasibility Study Reports for LACO No. 1261 (Auditorium)

Primary Contributor

ESA

A LACO No. 1261 (Auditorium) – Architectural Assessment Report

The Auditorium (LACO 1261)

8,700 s.f.
Primary Contributor to the Historic District

Building Description

The Auditorium (LACO No. 1261) faces Erickson Avenue, southwest of the intersection with Descanso Street, and is the visual terminus of Consuelo Street to the east. Originally a Spanish Colonial Revival design with Art Deco influences, the two-story building is rectangular in plan. The Flat roof was originally surmounted by a hipped clay tile roof that extended across the east façade, with partial returns on the north and south elevations. A plain metal coping marks the roofline currently. The building is constructed of unreinforced masonry with smooth painted stucco exterior walls and a composition roof. It sits on a concrete foundation. The east façade is organized into three equally sized bays. Pyramid-capped piers flank the entrance opening. An over-scaled voussoiring tops the entrance, with a lintel below it containing the word "AUDITORIUM" in metal letters. The piers and voussoiring create a "pinched arch" opening. The ground floor side bays each feature a single window opening with a pair of six-light, steel-framed pivot sash windows set below a wood lintel within a pinched arch opening. Three equally spaced, identical six-light, steel-framed original pivot windows are centered on the second floor above the entry. Wrought iron grilles over these windows, illustrated in historic photographs, have been removed.

Fenestrations on the north, south and west (rear) elevations are sparse and include original steel-framed sash windows; some of the openings are also characterized by pinched arches. Secondary entrances open off each of these elevations, as well. One door on the north elevation also has a pinched arch cap; another, at the top of an attached staircase, contains a pair of original, wood-paneled doors. The staircase is supported by heavy concrete brackets and edged by wrought-iron railing. The west entry has been enclosed. The property is in deteriorated condition and many of its windows and doors are covered with boards.[1]

Statement of Significance

The significance of LACO No. 1261 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> The Auditorium (LACO No. 1261) was originally identified as a contributing structure to the Rancho Los Amigos Historic District. The 2017 Survey revealed that little has changed since the Auditorium was last surveyed in 2007 and appears to remain eligible as a contributing structure to the Rancho Los Amigos Historic District. The Auditorium (LACO No. 1261) was previously recommended individually eligible under National Register

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 205 (LACO No. 1261),* prepared for the County of Los Angeles June 2, 2008.

Criterion C and California Register Criteria 3 by Post/Hazeltine Associates in 2004. The Auditorium's (LACO No. 1261) individual eligibility was reevaluated under National Register Criterion C and California Register Criterion 3. The most recent survey conducted by Sapphos in 2007-2011 recommended the Auditorium (LACO No. 1261) individually ineligible attributable to alterations to the original Spanish Colonial Revival style design. The Auditorium (LACO No. 1261) was reevaluated under the following historical and architectural themes: Development of the Los Angeles County Poor Farm and Rancho Los Amigos (1988-1952) and Spanish Colonial Revival Style Architecture (1915-1940). The 850- seat Auditorium (LACO No. 1261) was built in 1928, in order to provide a larger entertainment venue for the growing campus. The Auditorium (LACO No. 1261) was designed by County architect Karl Wilhelm Muck in the Spanish Colonial Revival style.

Based upon intensive research and site visit observations, the Auditorium (LACO No. 1261) has been substantially altered and the once restrained Spanish Colonial Revival style is no longer discernable. The design now reflects an Art Deco inspired style. The original character-defining features on the Auditorium (LACO No. 1261) that embodied the Spanish Colonial Revival style have been removed; stucco has been applied over the exposed brick on all elevations and the cast stone lintels above the first-story fenestration, the front Spanish-tile pent roof and decorative wrought iron grilles over the second-story windows have all been removed, the three pairs of entry doors were replaced, steel windows on the side elevations were removed and openings were infilled. As such, the Auditorium (LACO No. 1261) is not a distinctive or recognizable example of a Spanish Colonial Revival style social facility and in its current altered conditions it does not represent a notable work of County architect Karl Wilhelm Muck. Therefore, the Auditorium (LACO No. 1261) is not individually significant under National Register Criterion C, California Register Criterion 3, or Los Angeles County Criteria 3 for architecture.[2]

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, Auditorium (LACO No. 1261),* prepared for the County of Los Angeles January 8, 2018.

The building is reviewed below to be restored to an Auditorium use.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** Building has an asphalt shingle built up roof. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **8,700 s.f.**
• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **10,100 s.f.**
• **Exterior trim**- Minimal trim is located on the exterior walls, primarily at the entry and exterior stairway on the North side.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **8 pair 3'0 x7" doors.** • **3- 3' steel doors and frames**

• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **7- 5'x 5' steel framed windows** • **3- 2'x5' steel framed windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **8.700 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **8.700 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	• **Provide new allowance for stage lighting.**
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

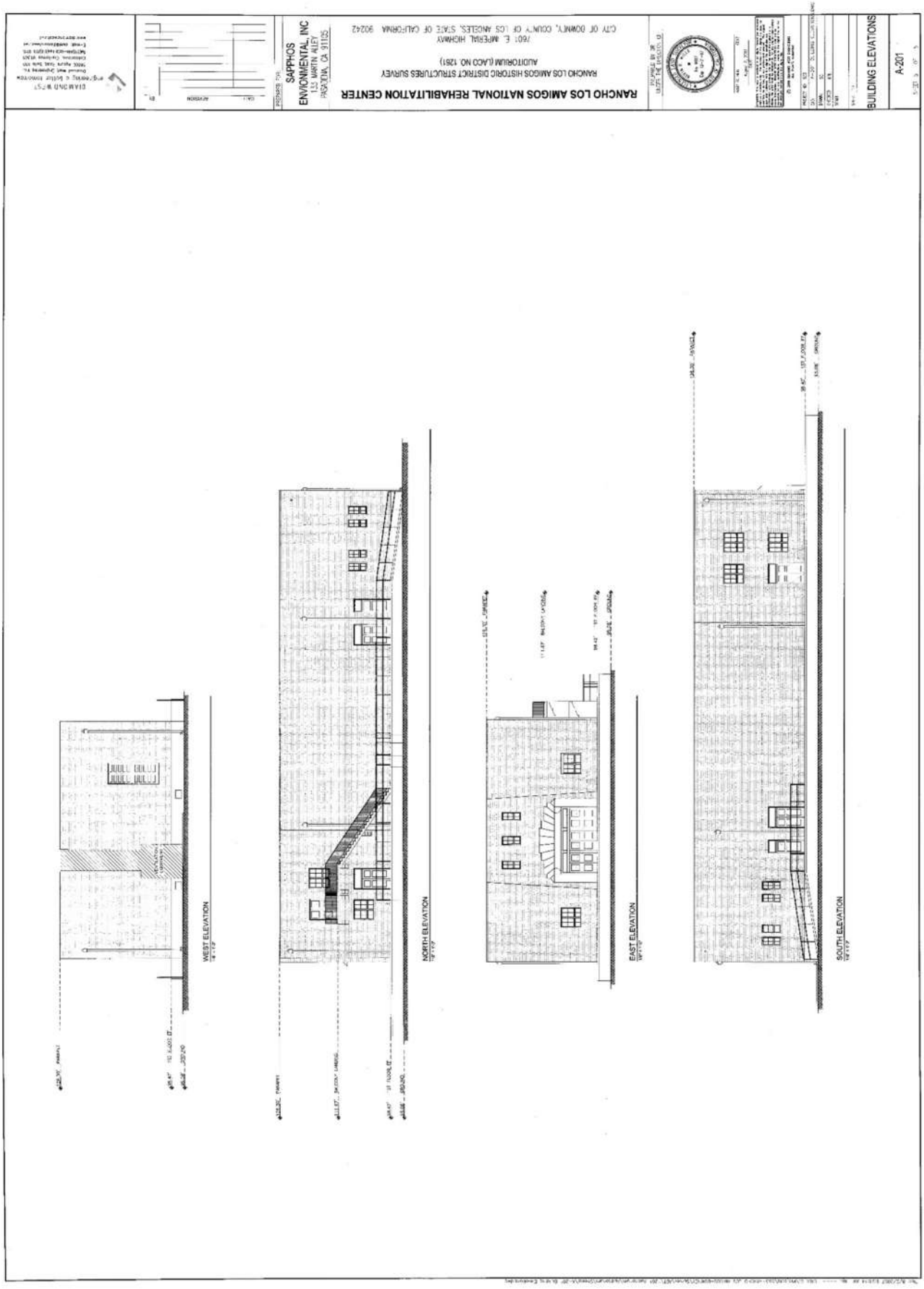
• **Roofing** – Replace entire built-up roof, waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **8,700 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **10,100 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **8 pair 3'0 x7" doors.** • **3- 3' steel doors and frames**
• **Windows and window openings** – Strip and remove rust, retrofit in place and replace window hardware and provide laminate glazing. Where repair is not possible replace in kind.	• **75'x 5' steel framed windows** • **3- 2'x 5' steel framed windows** • **Assume 20% replace in kind**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities at entry	• **6,000 s.f . hardscape and amenities.**

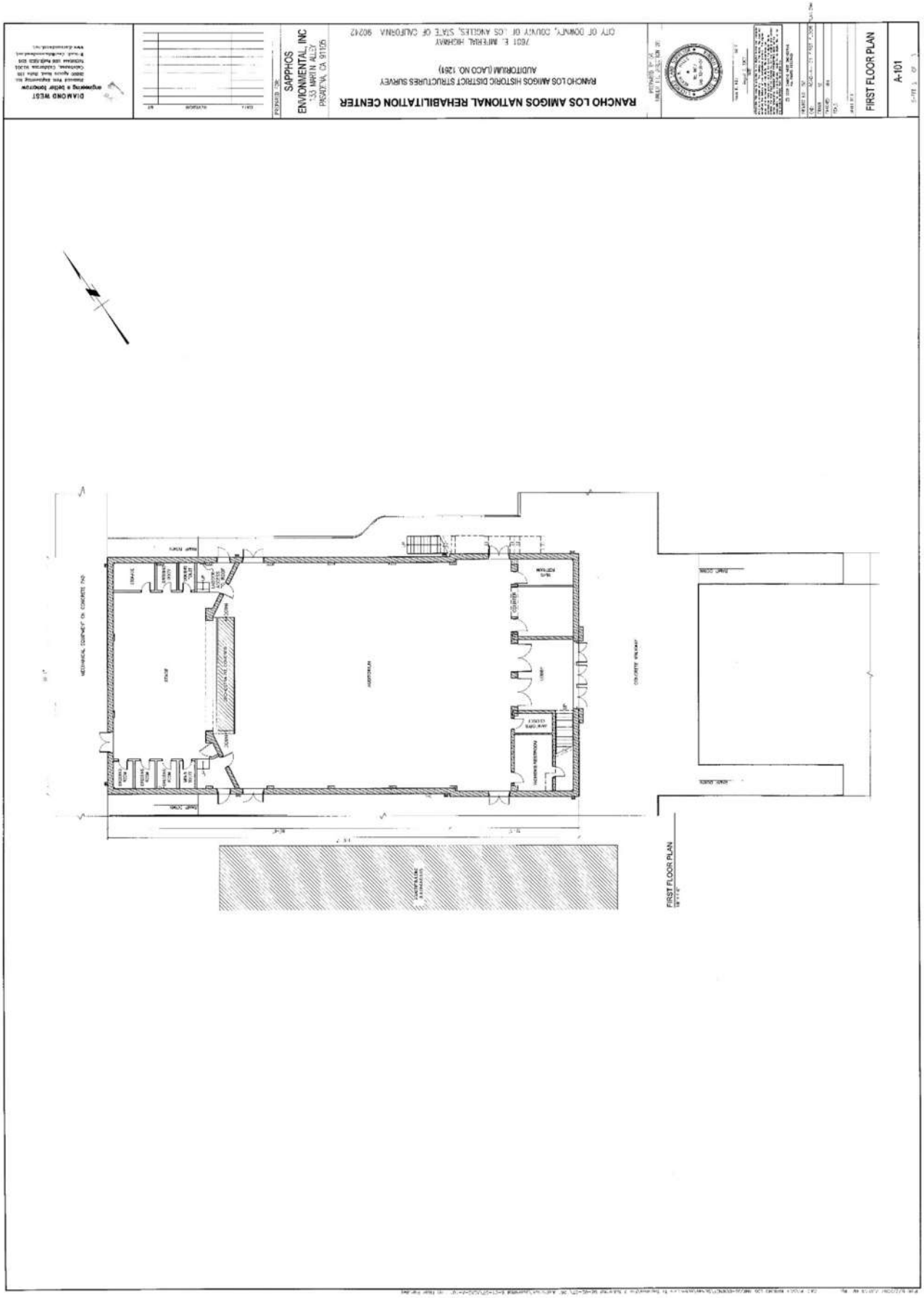
Interior Spaces

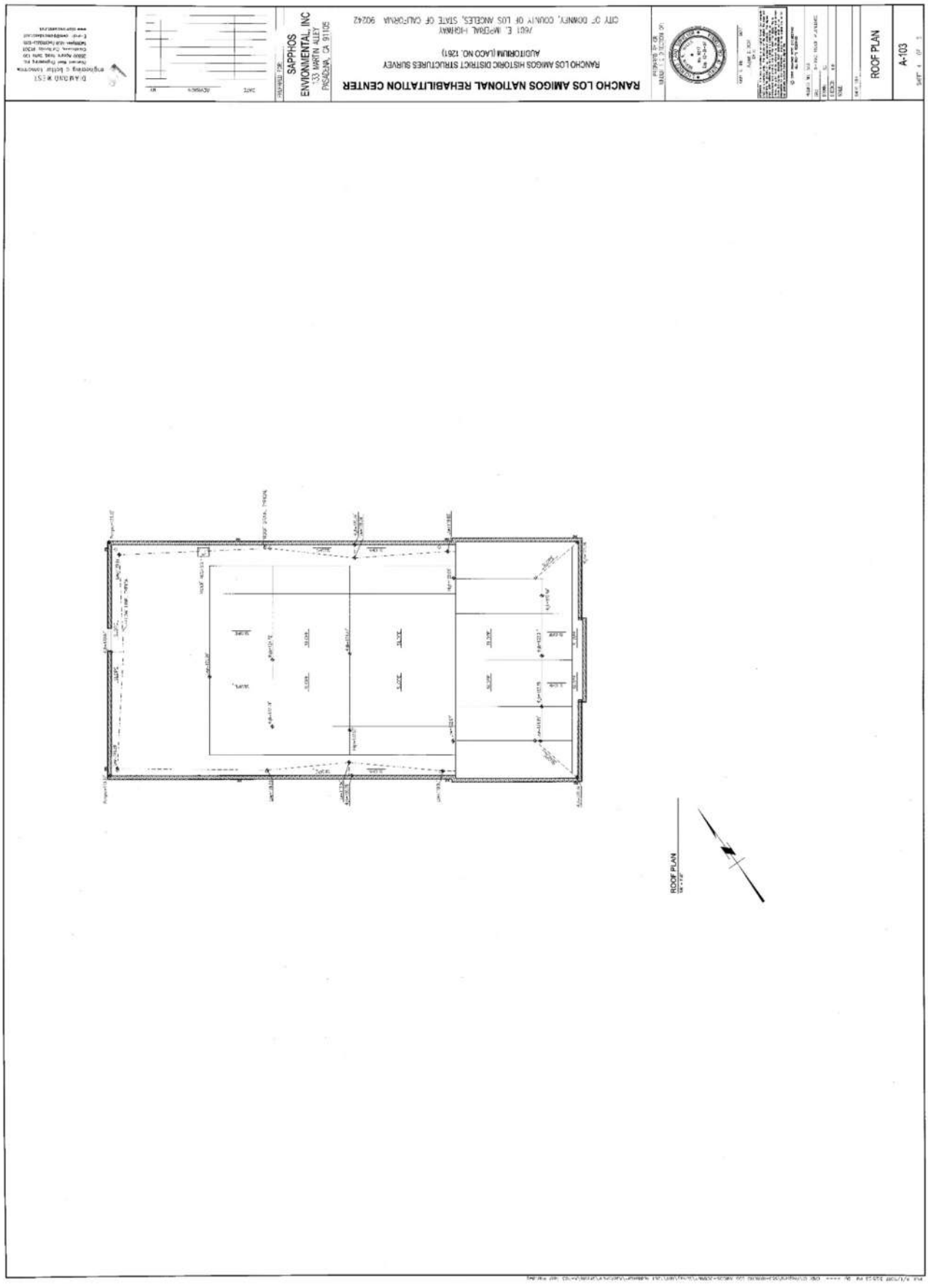
The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. It is intended that the space would be retrofitted as an auditorium conforming to current design and code standards. No fixed seating is assumed as part of the retrofit.

• **Flooring –** Repair damaged concrete floor. Remove and replace concrete floor in restrooms 800 s.f.	• **8,000 s.f repair** • **1,500 s.f. new.**

• **Walls – R**emove paint from masonry walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards.	• **12,000 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2 for assembly use.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **8,700 s.f.**
• **Millwork** – None anticipated	
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Elevator –** Provide new 3,000 lb. elevator and stage lift.	• **(1) 3,000 lb. elevator, one stage lift.**
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restroom core with total 10 fixture units and 6 sinks.**
• **Electrical** – Provide new 1000 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	

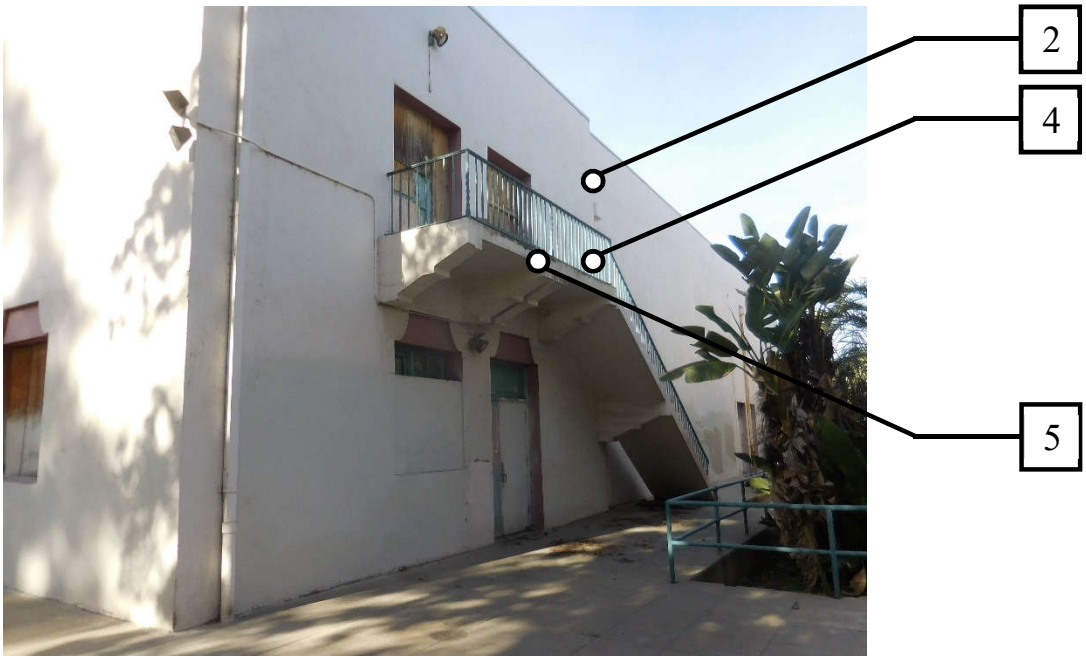

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SAPPHOS ENVIONMENTAL, INC
BUILDING ELEVATIONS
A-201
WEST ELEVATION
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
AUDITORIUM (LACO NO. 1251)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS
ENVIRONMENTAL, INC
FIRST FLOOR PLAN
A-101
FIRST FLOOR PLAN


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
AUDITORIUM (LACO NO. 1261)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
33 MARTIN ALLEY
PASADENA, CA 91105
ROOF PLAN
A-103
ROOF PLAN

Auditorium Entrance

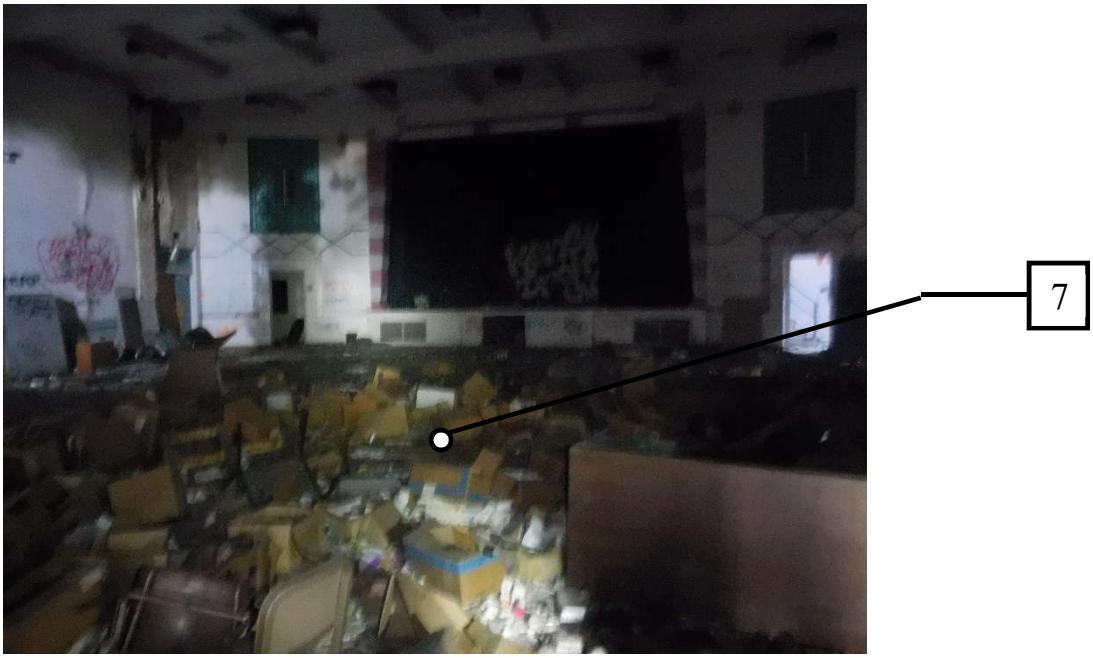
1. Repair steel windows; provide new glazing.
2. Patch, paint, and repair plaster walls.
3. Provide new steel frame storefront assembly.
4. Paint, clean, and refinish steel guardrails.
5. Repair and paint trim.
6. Remove plywood, repair existing window assembly.
7. Remove debris to evaluate condition of floor.



Northeast Corner

Southeast Corner

1. Repair steel windows; provide new glazing.
2. Patch, paint, and repair plaster walls.
3. Provide new steel frame storefront assembly.
4. Paint, clean, and refinish steel guardrails.
5. Repair and paint trim.
6. Remove plywood, repair existing window assembly.
7. Remove debris to evaluate condition of floor.



Damaged Interior of Auditorium

1. Repair steel windows; provide new glazing.
2. Patch, paint, and repair plaster walls.
3. Provide new steel frame storefront assembly.
4. Paint, clean, and refinish steel guardrails.
5. Repair and paint trim.
6. Remove plywood, repair existing window assembly.
7. Remove debris to evaluate condition of floor.

B LACO No. 1261 (Auditorium) – Structural Assessment Report

Structural Assessment: Auditorium Building
(LACO NO. 1261)

Summary of Assessment

The Auditorium Building is an unreinforced masonry building with a wood roof, constructed in 1928. It was retrofitted in the 1970s and is now expected to perform better in the event of a moderate earthquake. A plywood roof diaphragm, as well as concrete pilasters, and a 4-inch thick layer of shotcrete were added. Out-of-plane wall strength and anchorage were improved. However, it is unclear without significant analysis whether this retrofit meets the Collapse Prevention Performance Level or the Life Safety Performance Level.

The building appears to be in poor condition. Throughout the structure are signs of significant damage and deterioration due to water damage, exposure to the elements, and other causes. The expected seismic performance of the building is poor. Even after the 1970s retrofit, further structural upgrades and seismic strengthening would likely be required for the rehabilitation and adaptive reuse of the Auditorium. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report. However, bringing unreinforced masonry buildings up to a Life Safety Performance Level often involves extensive reconstruction work.

Description of the Building

The Auditorium building combines many construction materials. The floors are concrete slab with concrete joists. The roof consists of steel trusses and wood framing, and the walls are primarily unreinforced brick masonry, though some walls contain block masonry. Figure 1 shows the east elevation of the building at the front entrance. Figure 2 provides an overview of the interior space, though the balcony (behind the camera) is not shown. The building dimensions are 61 feet at the front and 118 feet at the sides, with a height of 28 feet. The total floor area is approximately 8,700 square feet. Partial construction plans were available for review, including plans for the renovations and improvements done in 1972. The available renovation plans show an additional 4-inch reinforced shotcrete layer applied to the walls. Concrete beams and columns were also added. A new plywood roof was installed, and some wall anchorage and support were added. The analysis required to determine whether the improvements are adequate to provide the expected performance level is beyond the scope of this report. A cursory review leads to the assumption that though performance was improved, the same possible deficiencies addressed in the retrofit would probably need further remediation and mitigation.

There is a concrete balcony inside the building just above the entrance. The main interior space is supported by five bays of steel bow trusses spanning from wall to wall. Perpendicular to the trusses, there are 2x10 wood rafters spaced at 16 inches on center with a ½-inch plywood roof diaphragm. The roof framing is shown in Figure 3[1] and Figure 4. The stage area at the back of the building is wood framed at both the floor and the roof. The back wall appears to be made of unreinforced brick masonry. The side walls also appear to be brick masonry with concrete pilasters. The balcony is made of a concrete slab over concrete beams; the back of the balcony is supported by concrete pilasters integrated with the walls. The front walls below the balcony are made of brick masonry while the walls above the balcony slab are made of block masonry.

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

Condition Assessment

The exterior plaster walls all around the building appear to be in fair condition. A minor crack at the base of a pier is shown in Figure 5. The existing exterior concrete stair that leads to the balcony has cracks and significant spalling of the concrete steps (Figure 6).

Inside the building there are openings in the ceiling where the roof structure is exposed, as shown in Figure 7 and Figure 8. The openings are likely a result of water leaks, which lead to deterioration of the existing wood members and plywood. The bottom chord of the steel trusses appears to be rusted. The balcony's lowest floor is soaked with water from roof leaks. This water has started corroding the concrete reinforcement. Thus, the concrete is spalling. At the stage and elsewhere throughout the building, the plaster in the metal lath ceiling has deteriorated. There are corners and edges where the rusted reinforcement is exposed, as seen in Figure 9 through Figure 12. Figure 11 provides an example of this deterioration at the front edge of the balcony. It is expected that additional deterioration and corrosion, not currently exposed, exists in areas above the ceiling.

There is minimal positive anchorage of the roof and floor diaphragms to the existing walls. Additionally, no evidence was found of straps between the supporting members that would provide sufficient continuity to the diaphragm. It is expected that the diaphragm is not strong enough, or continuous enough, to properly transfer forces across the building.

Evaluation of Structural Performance

This building's shape is ideal; few irregularities exist that could cause a concentration of stresses during a moderate earthquake. The trusses would need to be carefully inspected to determine their condition and analyzed to determine if they provide sufficient support for the roof loads. There is no positive connection between the edge of the diaphragm and the masonry walls to transfer the seismic forces. Additionally, the masonry is not reinforced. Both of these conditions, in combination with the tall wall heights, imply a significant risk of potential partial collapse and falling hazards in the event of a moderate earthquake. Anchors and other connecting hardware would need to be added at the diaphragm. Additional lateral systems, such as frames and shear walls, would also be needed to provide the proper strength for a seismic event.

The gravity and lateral stability of the balcony is questionable and further analysis is recommended. Water leaks have caused deterioration and should be repaired as soon as possible to mitigate further corrosion of the existing reinforcement. The balcony appears to have inadequate lateral support in its long direction. It is laterally supported on only 3 sides. The existing unreinforced masonry is not enough to support the lateral force from the balcony in addition to the force induced by the main building weight. No special drag connection from the balcony to the walls was found in the available drawings. Significant strengthening of the balcony would likely be required, including the addition of posts or brace frames at the front edge where the balcony has no lateral support.

The expected seismic performance of the building has been improved by the retrofitting done previously, however, it is assumed that there may be additional strengthening required. Additionally, the heavy plaster ceiling, which has already had portions fall, may pose a significant risk to any occupants below. Replacement and proper anchorage of the existing ceiling is recommended.

Summary of Proposed Upgrades

The expected structural performance of the Auditorium Building is difficult to ascertain without extensive testing and analysis, due to the fact that it was retrofitted previously but not under current code. Though some measures prescribed below may be found to have been implemented already, it is assumed that the building does not fully comply with current code. The following rehabilitation measures, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Shotcrete the existing unreinforced masonry (URM) walls. Shotcrete was part of the 1970s retrofit, but four inches of shotcrete may be found to be insufficient. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. Additional anchors would likely need to be drilled into the masonry to properly connect the outside face to the shotcrete.
- Install new steel braced frames or concrete shear walls to reduce stresses on existing walls. The addition of these frames or walls may compromise the large, open interior space, though an attempt could be made to add these elements in a layout consistent with the existing floor plan. New concrete foundations will need to be added beneath all new frames and walls.
- Surface coat the walls with fiber reinforced polymer (FRP).
- Although infill of existing wall openings (windows and doors) would improve performance, this method of strengthening would not be sufficient on its own. Furthermore, it is anticipated that such a solution would be incompatible with retention of the character-defining features cataloged for this building.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be interrupted by a network of steel tube framing.
- Add steel posts or brace frames to provide gravity and lateral support for the concrete balcony at its front edge. New concrete foundations would likely be needed beneath the posts or frames.

Diaphragm

- Install new steel anchors between walls and diaphragm. Anchors would be installed around the entire perimeter of the building. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Strengthen the plywood diaphragm as needed. This may involve new plywood sheathing and, at a minimum, would require additional fasteners between the plywood and the roof structure.
- Analyze the truss-to-wall connections and provide strengthening if necessary. Secondary gravity supports will likely be needed, such as a steel pipe column at the end of each truss. Concrete footings would be required beneath the new pipe columns.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Remove and replace any existing deteriorated masonry.
- Patch and grout the reinforced concrete that appears to be spalling and cracking. Epoxy all cracks and apply a moisture sealant to all concrete that is found to have limited concrete cover over the reinforcement. Where reinforcement is exposed and significantly corroded, additional strengthening measures may be required.
- Investigate the roof framing. Replace any deteriorated or damaged wood rafters.
- Remove and replace the plaster ceiling.

Figure 1: East elevation

Figure 2: Interior of Auditorium

Figure 3: Steel truss with wood roof framing

Figure 4: Steel truss with wood roof framing

Figure 5: Cracking at wall pier

Figure 6: Spalling of concrete steps

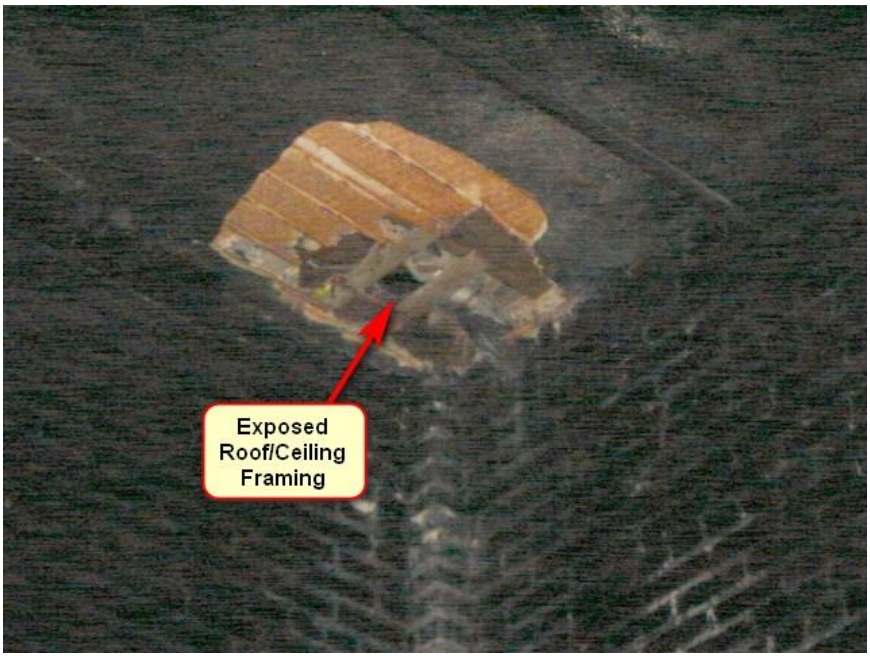


Figure 7: Damaged ceiling and exposed structure

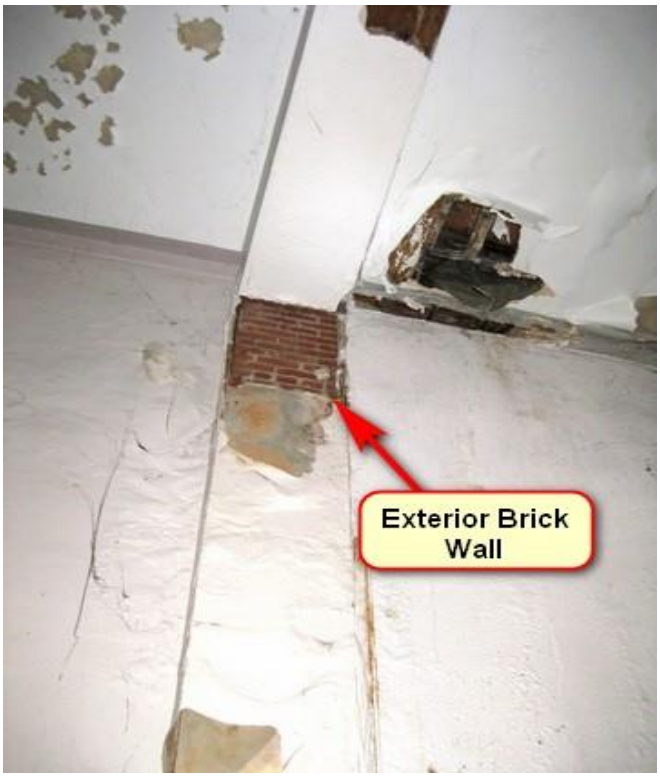


Figure 8: Plaster damage at ceiling and wall

Figure 9: Damaged ceiling and exposed roof structure

Figure 10: Plaster deterioration showing corrosion of reinforcement

Figure 11: Plaster deterioration and deteriorated reinforcement at balcony

Figure 12: Damaged plaster beneath steel truss

C LACO No. 1261 (Auditorium) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Auditorium (LACO 1261)

MGAC

Feasibility Study Cost Plan — Auditorium (LACO 1261)

			SF	$/SF	TOTAL $ x 1,000
B1	Auditorium (LACO 1261)		8,700	686.21	5,970
SUB-TOTAL BUILDING CONSTRUCTION			8,700	686.21	5,970
S1	Sitework		6,000	88.17	529
	Premium for enhanced sustainable site features				97
SUB-TOTAL SITEWORK					626
TOTAL BUILDING AND SITEWORK					**6,596**
Escalation to Midpoint (Jul 2021)		11.7%			769
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			589
	Project Management Consultant Services	3.0%			239
	FF & E	5.8%			475
	Taxes and Indirect Fees	1.0%			87
	Building Permit and Other Agency Fees	1.5%			131
	Owner Contingency/Construction Contingency	25.0%			2,222
Recommended Budget					***11,108***

Feasibility Study Cost Plan — Auditorium (LACO 1261) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	7,200		
Level 2	1,500		
TOTAL GROSS FLOOR AREA	**8,700**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		2	EA	0.000
Gross Area		8,700	SF	1.000
Enclosed Area		8,700	SF	1.000
Covered Area		0	SF	-
Footprint Area		7,200	SF	0.828
Gross Wall Area		10,100	SF	1.161
Finished Wall Area		10,100	SF	1.161
Windows or Glazing	2%	205	SF	0.024
Roof Area - Flat		8,700	SF	1.000
Roof Area - Total		8,700	SF	1.000
Roof Glazing Area		0	SF	-
Interior Partitions		280	LF	0.032
Finished Area		8,700	SF	1.000

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Feasibility Study Cost Plan — Auditorium (LACO 1261) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	8,700 SF	
A10	Foundations		3%	18.28	159
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	18.28	159
B10	Superstructure		10%	69.89	608
B20	Exterior Enclosure		4%	25.54	222
B30	Roofing		4%	24.50	213
B	Shell		17%	119.92	1,043
C10	Interior Construction		2%	15.93	139
C20	Stairways		0%	1.72	15
C30	Interior Finishes		16%	108.13	941
C	Interiors		18%	125.78	1,094
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	26.34	229
D30	Heating, Ventilation & Air Cond.		9%	65.07	566
D40	Fire Protection		1%	8.00	70
D50	Elect'l Lighting, Power & Comm.		14%	94.00	818
D	Services		28%	193.41	1,683
E10	Equipment		4%	25.29	220
E20	Furnishings		5%	36.03	313
E	Equipment & Furnishings		9%	61.32	533
F10	Special Construction		1%	4.60	40
F20	Selective Demolition		2%	14.10	123
F	Special Construction & Demolition		3%	18.69	163
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	537.40	4,675
Z10	Design Contingency	10.00%	8%	53.74	468
Z11	General Requirements	4.00%	3%	23.65	206
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	614.79	5,349
Z21	General Conditions	6.00%	5%	36.89	321
Z22	Bonds & Insurance	1.50%	1%	9.78	85
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	24.80	216
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	686.26	5,970
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	686.21	5,970

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Feasibility Study Cost Plan — Auditorium (LACO 1261)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				72,000
Foundation upgrade	7,200	SF	10.00	72,000
New elevator pit				n/a
A1030 Slab On Grade				87,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	2,900	SF	30.00	87,000
Remove/replace ramp including railings				*site*
				159,000
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				434,000
Strengthen connections between floors and lateral elements	1,500	SF	10.00	15,000
Allow shotcrete to interior face of exterior walls	10,100	SF	40.00	404,000
Patch/repair damaged suspended slab, allow 20%	300	SF	50.00	15,000
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				174,000
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	8,700	SF	20.00	174,000
				608,000

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				134,835
Patch, repair plaster exterior walls, allow 40%	4,040	SF	14.00	56,560
Loose fill insulation	10,100	SF	3.50	35,350
Painting to exterior walls	10,100	SF	3.00	30,300
Painting to interior face of exterior walls (shotcrete area)	10,100	SF	1.25	12,625
B2020 Exterior Windows				23,350
Strip and retrofit existing steel framed windows, replace hardware, install new high performance glazing	165	SF	110.00	18,150
New windows similar kind, high performance glazing, allow 20%	40	SF	130.00	5,200
B2030 Exterior Doors				64,000
Acoustic doors, double leaf	5	EA	8,000.00	40,000
Metal doors including frame and hardware				
Single leaf	3	EA	3,000.00	9,000
Double leaf	3	EA	5,000.00	15,000
				222,185
B30 Roofing				
B3010 Roof Coverings				213,150
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	8,700	SF	24.50	213,150
				213,150
C10 Interior Construction				
C1010 Partitions				24,000
Patch/repair existing partitions, 20%	800	SF	30.00	24,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				59,800
New wood doors including frames and hardware (1/500SF)	16	EA	2,300.00	36,800
Acoustic doors				
Single leaf	2	EA	4,000.00	8,000
Double leaf	2	EA	7,500.00	15,000
C1030 Fittings				54,800
Toilet partitions and accessories	10	EA	2,000.00	20,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	8,700	SF	4.00	34,800
				138,600
C20 Stairways				
C2010 Stair Construction				10,000
Repair existing stairs and railing	1	EA	10,000.00	10,000
C2020 Stair Finishes				5,000
New stair finishes	1	EA	5,000.00	5,000
				15,000
C30 Interior Finishes				
C3010 Wall Finishes				362,720
Repair damaged wall plaster and repaint - interior partitions	10,080	SF	15.00	151,200
Ceramic wall tiles to toilets	640	SF	18.00	11,520
Acoustic panels, acoustic plaster, etc.	1	LS	200,000.00	200,000
C3020 Floor Finishes				99,500
New floor finishes including base	8,000	SF	12.00	96,000
Existing flooring to remain, allow for cleaning	700	SF	5.00	3,500

	Quantity	Unit	Rate	Total
C3030 Ceiling Finishes				478,500
Auditorium ceiling	8,700	SF	55.00	478,500
				940,720

D10 Conveying Systems

				0

D20 Plumbing Systems

D2010 Plumbing Fixtures				40,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	20	EA	2,000.00	40,000
D2020 Domestic Water Distribution				68,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	20	EA	3,000.00	60,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	5,750.00	5,750
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				86,100
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	8,700	SF	2.00	17,400
Condensate drainage pipework, fittings, < = 1-1/2", insulated	8,700	SF	1.00	8,700
Waste, vent, fittings, < = 6"	20	EA	3,000.00	60,000

	Quantity	Unit	Rate	Total
D2040 Rain Water Drainage				26,100
Surface water drainage				
Roof & overflow drains, < = 6"	8,700	SF	3.00	26,100
D2090 Other Plumbing Systems				8,700
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	8,700.00	8,700
				229,150
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				92,963
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	375	mbth	27.50	10,313
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	8,700	SF	1.50	13,050
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	8,700	SF	8.00	69,600
D3040 Distribution Systems				251,104
Air distribution and return				
Galvanized sheet metal ductwork (1.5# /SF)	13,050	LB	12.00	156,600
Dampers	1	LS	15,660.00	15,660
Insulation	9,788	SF	4.50	44,044
Diffusers, registers and grilles	8,700	SF	4.00	34,800
D3050 Terminal & Package Units				148,700
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	9	EA	1,000.00	8,700

	Quantity	Unit	Rate	Total
D3060 Controls and Instrumentation				47,850
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	8,700	SF	5.50	47,850
D3070 Systems Testing & Balancing				21,750
Test and balance air systems	8,700	SF	2.50	21,750
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				566,116

D40 Fire Protection

D4010 Sprinklers				69,600
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	8,700	SF	8.00	69,600
				69,600

D50 Elect'l Lighting, Power & Comm.

D5010 Electrical Service & Distribution				243,575
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,000	AM	65.00	65,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels	15	KW	5,000.00	75,000

	Quantity	Unit	Rate	Total
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	8,700	SF	3.50	30,450
D5020 Lighting & Branch Wiring				369,750
User convenience power				
Panel board breakers, 120 V circuits	8,700	SF	2.00	17,400
Receptacles, including conduit and cable	8,700	SF	5.50	47,850
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	8,700	SF	30.00	261,000
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	8,700	SF	5.00	43,500
D5030 Communications & Security				130,500
Telephone and communications				
Telephone/data - including conduit & cable	8,700	SF	6.50	56,550
WAP	8,700	SF	1.00	8,700
DAS - Emergency response & cellular	8,700	SF	4.00	34,800
Cable tray/wire-way/j-hooks	8,700	SF	1.00	8,700
Audiovisual rough-in	8,700	SF	2.50	21,750
D5090 Other Electrical Systems				73,950
Fire alarm systems	8,700	SF	4.50	39,150
Security - perimeter access control & CCTV surveillance	8,700	SF	4.00	34,800
				817,775
E10 Equipment				
E1020 Institutional Equipment				220,000
A/V equipment	1	LS	200,000.00	200,000
Theatrical lighting, pipe grid, stage rigging, stage curtain & drapery				*n/a*

	Quantity	Unit	Rate	Total
Fixed seating				*FF&E*
Repair existing stage platform including steps, etc	1	LS	20,000.00	20,000
				220,000
E20 Furnishings				
E2010 Fixed Furnishings				313,475
Cabinets, countertops shelving and millwork	300	LF	1,000.00	300,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	205	SF	15.00	3,075
Entrance mat	1	LS	5,000.00	5,000
				313,475
F10 Special Construction				
F1010 Special Structures				40,000
Catwalk	1	LS	40,000.00	40,000
				40,000
F20 Selective Demolition				
F2010 Building Elements Demolition				57,380
Exterior windows	40	SF	5.00	200
Doors	28	EA	150.00	4,200
Built-up roofing including roof sheathing	8,700	SF	2.00	17,400
Demo hollow clay tile partitions, interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	8,700	SF	4.00	34,800
Allow for clearing/removal of storage debris	12	MH	65.00	780
F2020 Hazardous Components Abatement				65,250
Hazmat abatement - allowance	8,700	SF	7.50	65,250
				122,630

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Auditorium (LACO 1261)				
Gross Site Area	13,200	SF		
Building footprint	7,200	SF		
Net Site Area	6,000	SF		
General site clearing, demo and remove paving/landscaping	6,000	SF	4.00	24,000
Site paving, site structures, fencing, landscaping & irrigation	6,000	SF	25.00	150,000
Premium for permeable paving	3,000	SF	13.00	39,000
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	6,000	SF	6.00	36,000
Site Utilities	6,000	SF	25.00	150,000
Alternate Cost Before Markups				**414,000**
Z10 Design Contingency	10.00%			41,400
Z11 General Requirements	4.00%			18,216
Z21 General Conditions	6.00%			28,417
Z22 Bonds & Insurance	1.50%			7,530
Z23 Contractor's Overhead, Profit & Fee	3.75%			19,109
Z30 See Overall Summary for Escalation	0.00%			
				528,672

D LACO No. 1261 (Auditorium) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Auditorium #1261

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Auditorium (LACO #1261) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Auditorium #1261 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes. However,

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Auditorium (LACO #1261), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. *In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. For a short-term mothballing project, light gauge prefinished aluminum components are an acceptable alternative to a more durable construction system. Provide rain leader*

		extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

		After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins,*

		vandalism, fire alarms, security alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally and shall report a signal to a central station that automatically notifies the fire department.* *Install manual fire extinguishers attached*

		to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and	Yes. County staff stated that all utility services are shut off outside the buildings.

	electric lines?	Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment

		• check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS

Auditorium #1261

IMAGE #	**DESCRIPTION**	**Overview of General and Typical As-found Conditions March 2019**
1	Main entrance door /storefront	
2	Concrete stairway and railing.	

3	Plywood at windows	
4	Typical interior debris	

E LACO No. 1261 (Auditorium) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Auditorium (LACO 1261)

MGAC

Mothballing Cost Plan — Auditorium (LACO 1261)

			SF	$/SF	TOTAL $ x 1,000
B1	Auditorium (LACO 1261)		8,700	30.92	269
TOTAL BUILDING CONSTRUCTION			8,700	30.92	269
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**269**
Escalation to Midpoint (Jul 2021)		11.7%			31
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			12
	Project Management Consultant Services	2.0%			6
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			3
	Building Permit and Other Agency Fees	1.5%			5
	Owner Contingency/Construction Contingency	10.0%			33
Recommended Budget					***359***

MGAC

Mothballing Cost Plan — Auditorium (LACO 1261)

Item Description	Quantity	Unit	Rate	Total
1.) Auditorium (LACO 1261)				
No of floors	***1***	***EA***		
Gross Floor Area	***8,700***	***SF***		
Gross Wall Area	***10,100***	***SF***		
Roof Area	***8,700***	***SF***		
Windows Area	***205***	***SF***		
Gross Site Area	***13,200***	***SF***		
Building footprint	***7,200***	***SF***		
Net Site Area	***6,000***	***SF***		
Stabilized structure	8,700	SF	1.50	13,050
Repaint exterior walls	10,100	SF	2.00	20,200
Protect existing openings (exterior doors)	11	EA	800.00	8,800
Install hard protection/boarding to windows	205	SF	25.00	5,125
Seal all openings to eliminate small animals and pests from entering and nesting in the building	10,100	SF	0.10	1,010
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	8,700	SF	15.00	130,500
Termites, ants, rodents etc - inspection and allowance for treatment	8,700	SF	0.25	2,175
Install smoke & fire detectors including wiring	8,700	SF	1.00	8,700
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	3	EA	275.00	825
Remove debris and broom clean	8,700	SF	0.75	6,525
Clear site of weeds and overgrown trees	6,000	SF	0.50	3,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**209,410**
Z10 Design Contingency	15.00%			31,412
Z11 General Requirements	3.00%			7,225
Z21 General Conditions	3.00%			7,441
Z22 Bonds & Insurance	1.50%			3,832
Z23 Contractor's Overhead, Profit & Fee	3.75%			9,724
				269,044

Feasibility Study Reports for LACO No. 1262 (Dining, Kitchen, Staff Room)

Primary Contributor

ESA

A LACO No. 1262 (Dining, Kitchen, Staff Room) – Architectural Assessment Report

Dining room, Kitchen, Staff room, Commissary (LACO 1262, 1263)

33,093 s.f.
4,089 s.f. Commissary
Primary Contributor to the Historic District

Building Description

Comprised of six attached building wings and additions, the Dining Room, Kitchen, Staff Room, Commissary and Receiving Room complex (LACO No. 1262, 1263) is set back from Erickson Avenue, north and west of the General Ward buildings. The west (rear) elevation of the Complex faces Juniper Street. Constructed in stages between 1912 and 1926, the Complex is a large, asymmetrical massed building whose L-shaped floor plan resembles a pistol. The brick vernacular Complex consists of the two-story circa 1912 Commissary and Receiving Building (LACO No. 1263); the two-story 1913 Dining Room, Game and Staff Building; the one-story circa 1917 Kitchen wing; the two-story circa 1920 Dining Room wing; the two-story 1924 Dining Room expansion wing; and the one-story circa 1926 wing linking the Kitchen wing to the Commissary building (the latter 5 wings collectively referred to as LACO No. 1262). A bridge extends over a walkway and connects the Complex to General Wards 30 and 40.

Above a concrete foundation, the exterior walls of the complex are unreinforced brick laid in common bond and currently painted. The flat roof is hidden by a parapet; the roof of the Kitchen wins is distinguished by a large skylight. Corbelled and raised brick courses wrap the building and define the cornice and frieze, separate the first and second stories, and delineate the base of the wall plate. Brick dentils accent the frieze on the Commissary building. The fenestration can generally be described as rows of large, evenly spaced, segmentally arched openings containing wood-framed, one-over-one, double-hung sash windows. Triple courses of header bricks define the arches. Windows are flat headed; some are topped with transoms. Raised brick sills are provided when the windows do not sit directly on the spring courses atop the wall base or separating the levels. Numerous entries, are located on nearly all elevations, providing access to the building, including some second story entrances reached via attached metal staircases. A receiving dock is located on the west. Some original wood doors, both single- and double-leaved, are in situ. Concrete ramps with pipe railings surround much of the building. The complex is in deteriorated condition and its windows and door are covered with plywood. A fire in 2005, extensively damaged the northeast wing of the building, destroying the roof and the interior of the second story.[1]

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 205 (LACO No. 1262, 1263),* prepared for the County of Los Angeles June 2, 2008.

Statement of Significance

The significance of LACO No. 1262 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> The Dining Room, Kitchen, Staff Room, Commissary and Receiving Room complex (LACO No. 1262, 1263) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected from 1912 to 1926 as the primary Dining Room and Kitchen for the County Poor Farm. By the mid-1920s, growth of the County Farm prompted the construction of "Kitchen #2" (now the Kitchen and Dining building, LACO No. 1295) to relieve the burden on this earlier facility. The Complex continued to be used for food preparation and dining, as well as for housing and other functions, until Rancho Los Amigos began relocating all medical activities to the North Campus area across East Imperial Highway. The Complex is currently abandoned.
>
> The Dining Room, Kitchen, Staff Room, Commissary and Receiving Room complex evolved over a period of approximately 14 years in response to the expanding capacity and functions of the County Farm. The earliest portion of the Complex, the Commissary Building (LACO No. 1263), was built circa 1912 and was among the first buildings constructed at the institution during Superintendent Charles C. Manning's tenure. Known as the Old Rancho Store, the building later was used for shipping and receiving. In 1913, the north wing of the Complex (LACO No. 1262) was constructed to house Dining, Game, and Staff Rooms (sometimes later, the first-floor dining room was converted into a reading room). In the following years, Superintendent William R. Harriman made several additions to the complex, including the addition of a one-story Kitchen wing (circa 1917) to the southwest corner of the 1913 building and a two-story Dining Room wing (circa 1920) south of the new Kitchen wing. In 1924, Dining Room space was expanded by a two-story addition to the west elevation of the circa 1920 Dining Room wing (in later years, this building was used as the Print Shop for the campus). The last addition to the Complex occurred circa 1926, when a one-story extension linked the Kitchen wing to the Commissary Building. At least one of the additions to the Complex, the 1913 north wing, was designed by the prominent Los Angeles architectural firm, Hudson and Munsell, according to the original architectural drawings. The Kitchen and Dining Room served both staff and ambulatory patients and was known as the "dormitory kitchen" because of its proximity to the General Ward Buildings. In addition, meals were prepared for patients in the psychiatric wards and delivered by cart. Diet had been emphasized as a critical component of health, recovery, and well-being at the County Farm since its beginnings, and in 1924 a professional dietitian was added to the staff.[2]

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, Dining Room, Kitchen and Staff Room (LACO No. 1262 & 1263),* prepared for the County of Los Angeles January 8, 2018.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Exterior walls –** Exterior masonry which is damaged in minimal amount of areas. It is repairable in most areas.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **206 wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were vandalized, and areas had water damage. A substantial portion of the second floor was destroyed due to arson. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **33,000 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **33,000 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing** – Replace entire built-up roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **33,000 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer	

recommended installation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **206 wood windows** • **25% replace in kind**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	

Interior Spaces

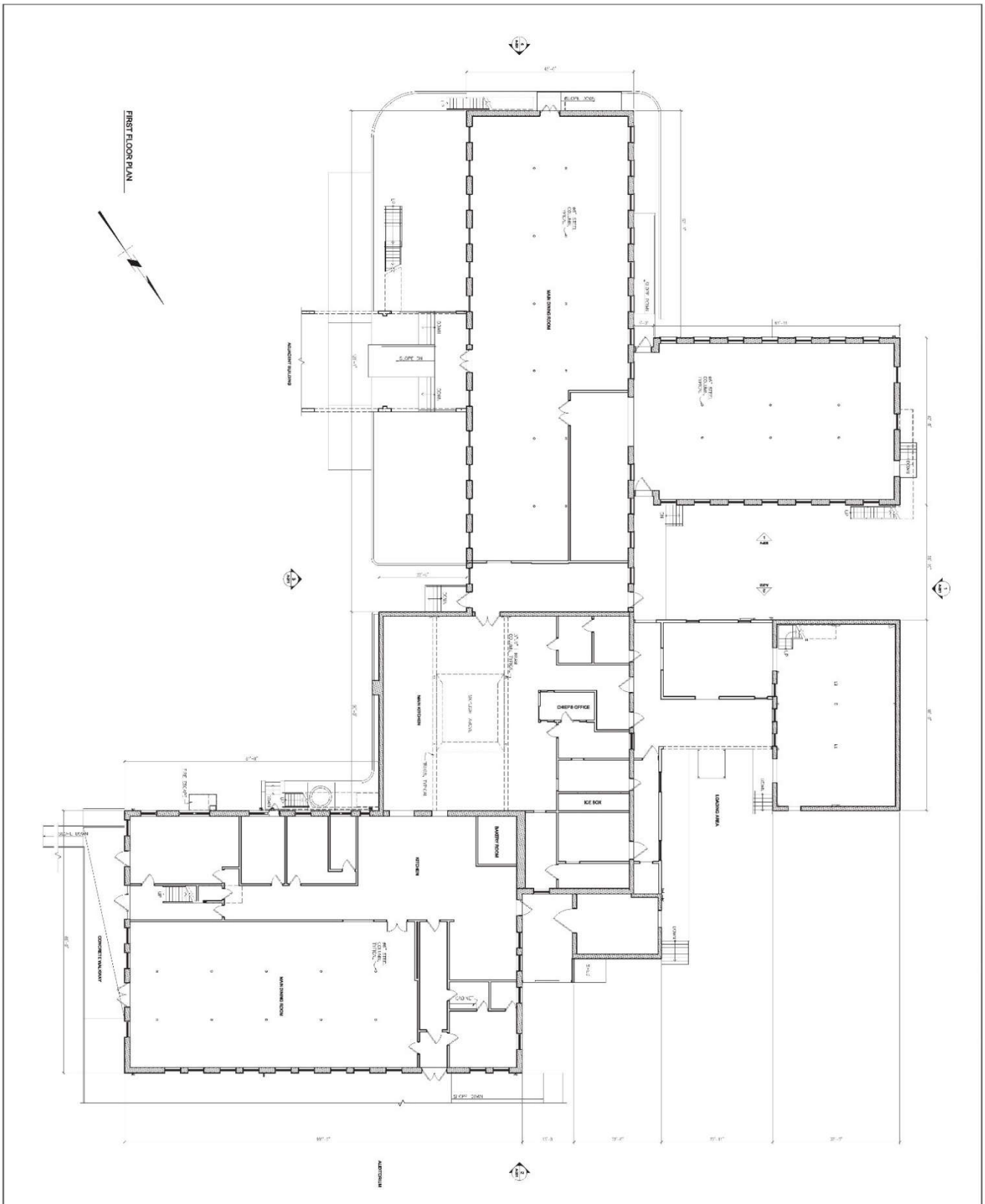
The existing interior spaces were severely vandalized and water damaged. A substantial portion of the second floor was destroyed by fire. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan with no character defining elements.

It is assumed that this structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring at second floor	• **33,000 s.f.**
• **Walls –** Remove paint from masonry walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow clay tile walls to be encapsulated with 4" 16 ga. Studs and gyp bd. each side.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	

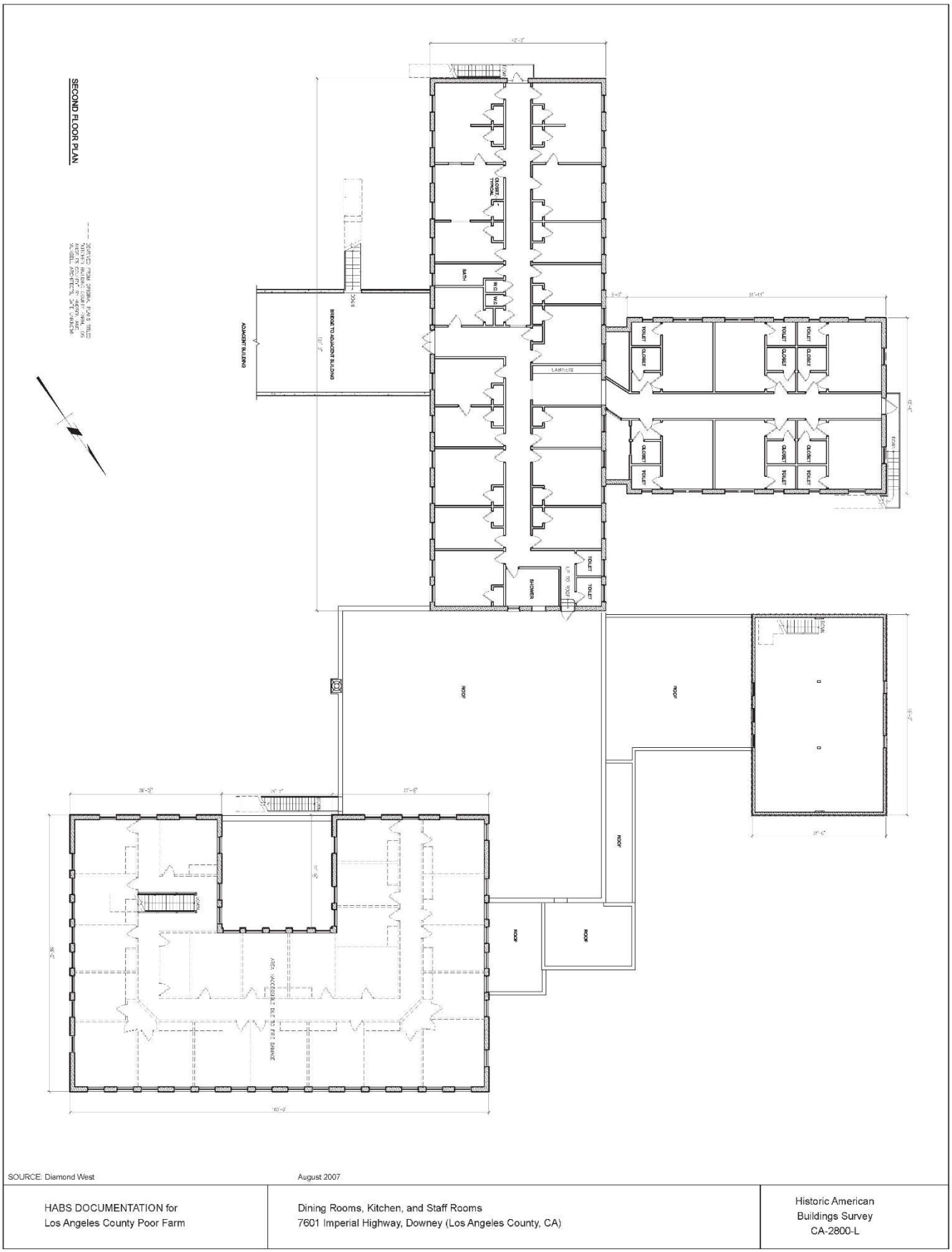
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **33,000 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **200 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space	• **4 restroom cores,** • **12 fixtures, 8 sinks.**
• **Electrical** – Provide new 2000 Amp system.	
• **Elevator –** Provide new 3,000 lb. elevator.	• **3,000 lb. elevator**
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	

HABS DOCUMENTATION for
Los Angeles County Poor Farm
Dining Rooms, Kitchen, and Staff Rooms
7601 Imperial Highway, Downey (Los Angeles County, CA)
Historic American
Buildings Survey
CA-2800-L
SOURCE: Diamond West
August 2007
WEST ELEVATION
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION



SOURCE: Diamond West August 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	Dining Rooms, Kitchen, and Staff Rooms 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-L



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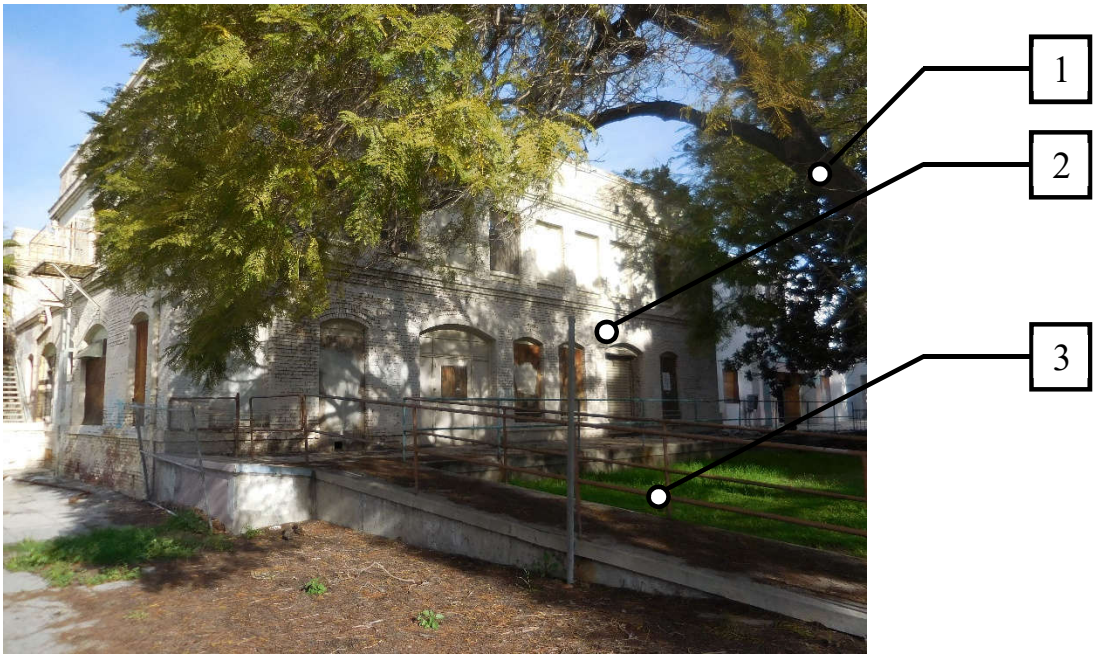
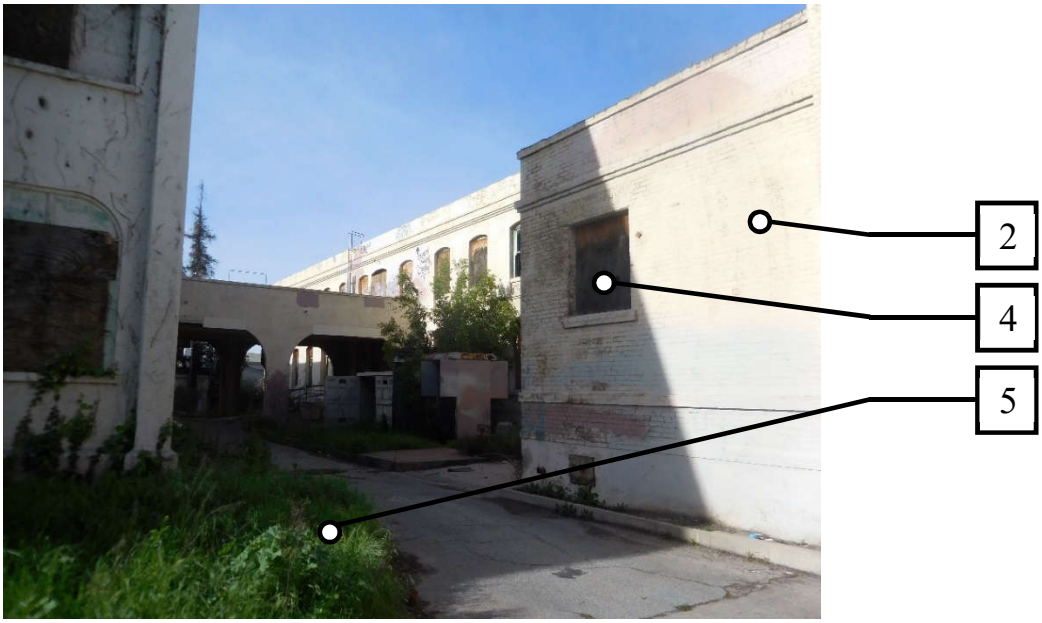


East Elevation

Courtyard South Elevation

1. Protect tree and root structure.
2. Repair brick, masonry and grout.
3. Provide new guardrail and ramp assembly.
4. Remove plywood and repair wood windows.
5. Remove and replace landscape and hardscape.
6. Repair skylight and provide laminated glazing.
7. Repair and paint columns.
8. Clean debris.
9. Entire roof structure to be re-built in this area.

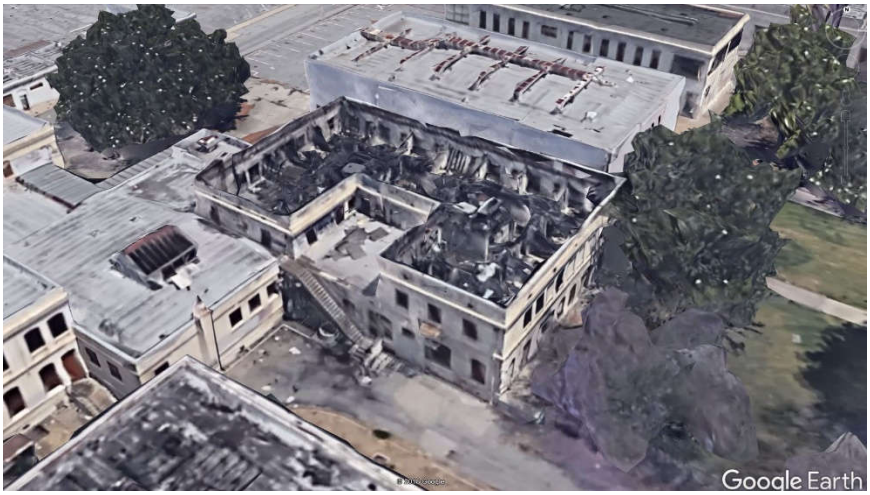
East Elevation Courtyard



Courtyard Adjacent to General Ward 30

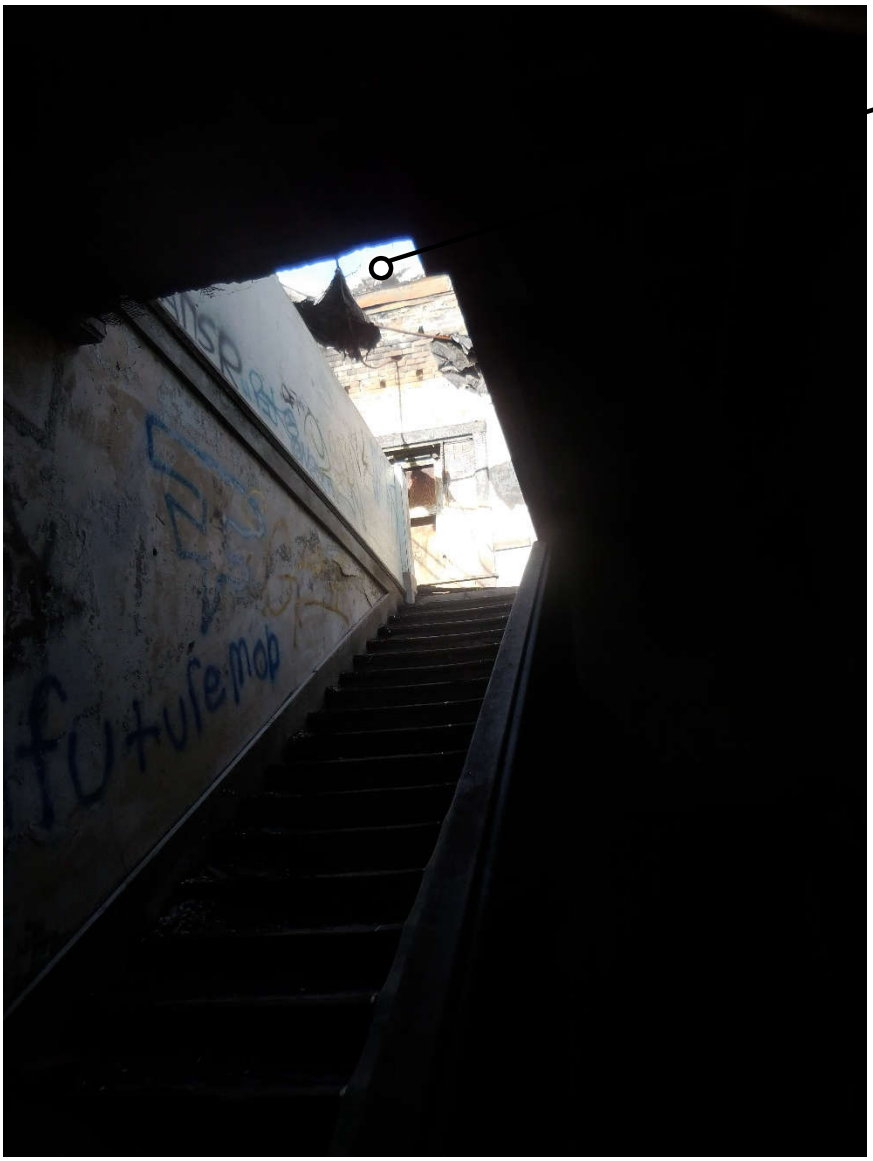
1. Protect tree and root structure.
2. Repair brick, masonry, and grout.
3. Provide new guardrail and ramp assembly.
4. Remove plywood and repair wood window.
5. Remove and replace landscape and hardscape.
6. Repair skylight and provide laminated glazing.
7. Repair and paint columns.
8. Clean debris.
9. Entire roof structure to be re-built in this area.

Interior at open skylight-water intrusion



Google map image of fire damage

1. Protect tree and root structure.
2. Repair brick, masonry, and grout.
3. Provide new guardrail and ramp assembly.
4. Remove plywood and repair wood windows.
5. Remove and replace landscape and hardscape.
6. Repair skylight and provide laminated glazing.
7. Repair and paint columns.
8. Clean debris.
9. Entire roof structure to be re-built in this area.



Open stairwell at destroyed roof

1. Protect tree and root structure.
2. Repair brick, masonry, and grout.
3. Provide new guardrail and ramp assembly.
4. Remove plywood and repair wood windows.
5. Remove and replace landscape and hardscape.
6. Repair skylight and provide laminated glazing.
7. Repair and paint columns.
8. Clean debris.
9. Entire roof structure to be re-built in this area.

B LACO No. 1262 (Dining, Kitchen, Staff Room) – Structural Assessment Report

Structural Assessment: Dining, Kitchen, Commissary & Staff Rooms
(LACO NOs. 1262 & 1263)

Summary of Assessment

The Dining, Kitchen, Commissary and Staff Rooms building complex was constructed between 1912 and circa 1927. The existing building complex is comprised of six buildings and additions that are connected to each other, with a total area of approximately 37,138 square feet. The complex is two stories with unreinforced masonry walls at the perimeter and wood framed walls, floors, and roofs at the interior. The complex has seen at least two or three significant fires, and large portions of the buildings have been heavily damaged or destroyed as a result. The fires have left some of the walls completely free standing, which could mean there is a serious risk of collapse. Other portions of this building have experienced significant deterioration for other reasons, including extreme water damage. Due to the severely damaged condition of the building complex and the potential safety risks associated with such damage, only portions of the complex were observed.

The structures of the complex are in poor condition, with extensive damage and deterioration visible throughout the entire complex. The expected seismic performance of this building in its current condition is poor; the complex does not appear to have a sufficient lateral force resisting system. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of the structures of LACO Nos. 1262 and 1263. A detailed summary of these measures is included in the final section of this report. However, bringing unreinforced masonry buildings up to a Life Safety Performance Level often involves extensive reconstruction work. Furthermore, some structures within the complex may need to be completely demolished and re-built in order to fully rehabilitate the complex to a Life Safety Performance Level.

Description of the Building

The Dining, Kitchen, Commissary and Staff Rooms building complex, shown in Figure 1, is structurally considered a single structure because there are no seismic joints or separations that would allow for independent movement in the event of an earthquake. There are no available plans for these buildings; therefore, the information in this report is based solely on the site observation. Figure 1 shows an aerial view of the complex with the various wings identified. The construction of this building is two-story brick masonry exterior walls, 18 inches thick, with wood framing forming the interior walls, floor, and ceilings.

The northeast wing of the building, which is assumed to include the staff rooms, was severely damaged by a previous fire. The entire second floor and portions of the first floor did not appear safe enough to inspect. The exterior brick masonry walls appear to be unreinforced. The first-floor interior walls are constructed of 2-inch-thick framing with plaster over metal screen lath. The second-floor interior walls are 2-inch-thick framing with plaster over wood lath. The first-floor ceiling is plaster over metal screen lath.

The northeast wing is connected on its south side to the rest of the complex by a one-story roof structure where the kitchen was located. The exterior walls are unreinforced brick masonry. The ceiling here appears to be plaster over metal lath. In the middle of the room, there is a damaged vaulted skylight. There are two bays of dropped beams across the room. The dropped beams are covered by plaster and supported by steel wide flange columns.

Adjoining the kitchen on the west side is LACO No. 1263, a two-story structure labeled as the northwest wing and once used as the receiving building for the complex. This structure is of similar construction to the rest of the building: unreinforced brick masonry exterior walls, 2-inch wood joists, and straight board sheathing. In this structure, the wood beam at the middle of the room appears to be supported on wood posts.

Across the hallway from the kitchen, on the south side, is another two-story building. At the first floor is an open area, assumed to be the dining area. The construction of this room is similar to that of the kitchen, with two rows of steel pipe columns supporting the dropped beams that span north to south down the center of the building. The second floor appears to consist of diagonal sheathing over 2-inch wood floor joists. The dining area extends into the west wing at the first floor, which is assumed to be of similar construction.

Condition Assessment

In the northeast wing of the building, the staff rooms were severely damaged by fire. The exterior brick masonry walls, two stories high, are still standing though some bricks appear to have fallen off the top of the walls. The wood framed roof is gone, and the interior structure is open to the sky (Figure 2). The absence of the roof and diaphragm means that the exterior walls at the staff rooms have lost their lateral support; they are free-standing and could easily collapse. Part of the second-floor wood framing still exists, though it is severely damaged, and the stairways from the first floor to the second are likely unsafe for use. Examples of this damage are shown in Figure 3 and Figure 4. At least 80% of the second-floor structure appears to have sustained fire damage. In several places, the joists are so charred that they have broken or snapped (Figure 3). Plaster walls and ceilings are significantly damaged and large portions of plaster have fallen (Figure 4 and Figure 5).

In areas not damaged by fire, there are signs of significant water damage. Water stains and calcium deposits are visible at the underside of the second-floor sheathing (Figure 6). The entire second floor of this wing is exposed due to the missing roof, and calcium deposits are caused by long term exposure to significant amounts of moisture. It is likely that 60% to 100% of the northeast wing has significant water damage.

The exterior walls typically contain dislodged bricks and significant cracks (Figure 7 and Figure 8). These cracks reveal the low shear capacity of the walls and the inadequate bonding of the materials used. There are also several diagonal cracks observed at exterior wall openings, as shown in Figure 9. These cracks may be caused by foundation settlement or displacement due to nearby earthquakes. The mortar between bricks shows signs of significant deterioration (Figure 8 and Figure 10)[1]. These walls are in poor condition and in need of significant strengthening and repairs.

In the kitchen area, where the skylight glass has been removed, the framing is now exposed to the elements. This causes the building materials to deteriorate at a faster rate. As seen in Figure 11, the plaster is cracking, and in places, falling. The steel posts have rusted. Ponding at the floor, shown in Figure 12, is an indication that the floor slab may also be deteriorated. The wood framing and sheathing is likely rotted and deteriorating due to excessive moisture. The skylight is shown from above in Figure 13 (though this shows conditions in 2006) and from below in Figure 14 (current condition).

Excessive damage was observed in the west wing and south portion of the building as well. Water damage is evident in the second-floor framing and sheathing (Figure 15). The wood appears to be deteriorated and rotting. Plaster tiles have fallen from the ceiling. In areas where the plaster ceiling is still intact, peeling of the paint suggests high moisture content and further water damage. Ponding on the floor slab, shown in Figure 16, may have affected the structural integrity of the slab.

At the northwest wing, conditions were similar to those observed throughout the rest of the building. Water damage and fire damage were evident at the underside of the second-floor framing. Figure 17 shows damage to a brick pilaster,

[1]*Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

which was likely intended to provide substantial gravity support. Cracking could be seen at the exterior brick walls, as shown in Figure 18.

The connection between floor and roof framing members and the brick walls is unknown. It is likely that the connections are not sufficient and will need to be strengthened. Proper connections should be added where the steel posts connect to the floor slab and to the beams they support. It is assumed that the diaphragm anchorage, diaphragm capacity, and possibly the ledger attachments are inadequate.

Evaluation of Structural Performance

Overall, this building complex is in poor condition and seems to be unsafe for occupancy. The second-floor framing of the majority of the complex has unknown, though minimal, structural integrity and should not be used at all. The staff rooms have been destroyed by fire and the only portion remaining is the brick masonry walls at the exterior. These walls likely provide no structural value, but feasibly may remain if proper strengthening measures are taken and a new structure with a supporting lateral system is installed within the walls.

The building wings, which are not as severely damaged, must still be significantly strengthened. These tall deteriorated masonry walls may be at risk of partial collapse and could be falling hazards. Since they have no lateral reinforcement, they do not have adequate out-of-plane strength or shear strength. These walls must be strengthened and properly supported. The floor and roof diaphragms throughout the building would most likely be found insufficient to transfer the necessary lateral forces. Significant amounts of interior wall, floor, and ceiling framing would need to be replaced either due to damage, deterioration, or insufficient strength. Additionally, the plaster ceilings found throughout this building pose a threat of falling during an earthquake. This could harm occupants or block corridors and exits. Measures should be taken to replace the ceiling with a properly anchored ceiling system.

Summary of Proposed Upgrades

The expected structural performance of the Dining, Kitchen, Commissary and Staff Rooms building complex (LACO Nos. 1262 and 1263) is poor. The following rehabilitation methods, at a minimum, are required for the buildings to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the masonry walls. Strengthening will likely be needed on all walls, likely across the entirety of each wall's surface area. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced masonry walls. Shotcrete would most likely be required on all masonry walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the shotcrete. Once shotcrete is applied, the interior brick and any wall mounted industrial interior piping may no longer be visible.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient than other methods for providing protection of character-defining features while increasing performance and strength.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be interrupted by a network of steel tube framing.
- Upgrade foundations beneath the walls to resist overturning forces.
- Anchor the walls to the foundation.

- Strengthen or replace interior walls that will be needed for the lateral resisting system of the building. Add plywood to existing wood stud walls, as well as holdowns and anchors to the foundation below. New foundations or foundation strengthening may be required.
- Provide new interior shear walls if needed to complete the lateral resisting system. New footings would be required beneath the walls.

Diaphragm

- Replace existing roofing with a new plywood diaphragm. This is likely needed for the entire roof.
- Replace existing flooring with a new plywood diaphragm. This is expected to be needed for 80% to 100% of the second floor.
- Provide proper fastening of the diaphragm to the wood framing (increased nailing). The diaphragm should only be fastened to new framing, or to existing framing that has been determined to have sufficient capacity.
- Install new steel anchors between walls and diaphragm. Anchors would be installed around the entire perimeter of each building. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross tie straps, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Replace broken, deteriorated, and insufficient wood members.
- Inspect the connection of the roof framing to the exterior walls and strengthen as needed.

General Condition

- Reconstruct all interior wall, floor, and roof framing that has been destroyed, damaged, or deteriorated. Properly anchor this framing to the new diaphragms and to the exterior walls. It is expected that 50% to 100% of the complex's walls, floors, and roofs will need to be repaired.
- Properly anchor all brick masonry above grade to new or existing supports to mitigate falling hazards. This can be done with post installed anchors or FRP.
- Replace any deteriorated masonry. Patch and grout all areas where spalling and cracking has occurred.
- Repair the eroded mortar. It is expected that 30% to 70% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building may need to be repointed.
- Replace all plaster ceilings with properly anchored and supported ceilings.
- Provide proper connections where steel posts connect to the slab below and to the beams above.
- Replace any posts that are significantly deteriorated or damaged.

Figure 1: Aerial view of the complex

Figure 2: Second floor at the northeast wing where the roof is missing

Figure 3: Fire damage at second-floor framing, including a severely charred and broken beam

Figure 4: Typical damage to second-floor framing in the northeast wing

Figure 5: Damaged interior partition wall in northeast wing

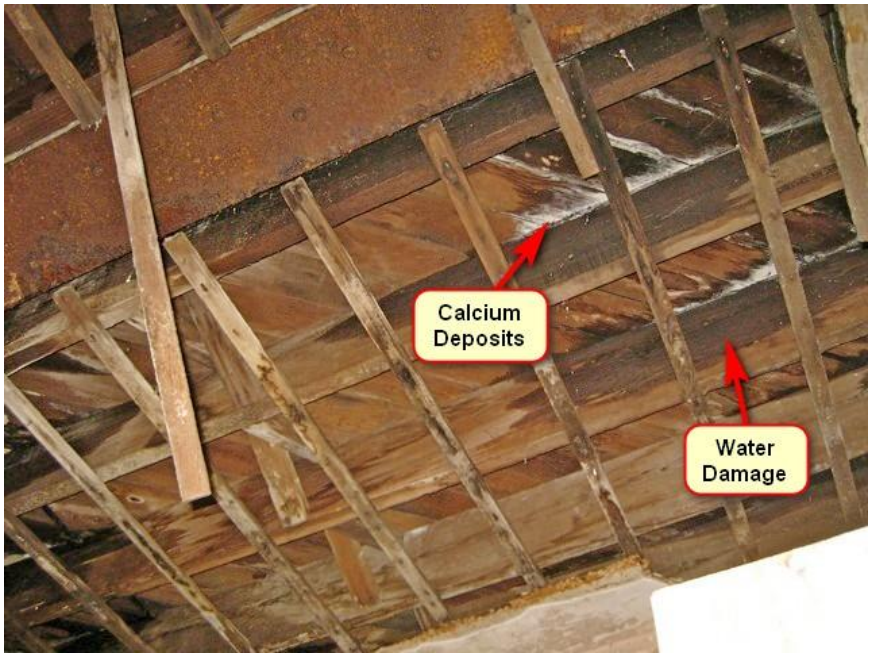


Figure 6: Evidence of prolonged moisture exposure at second-floor framing

Figure 7: Cracking in exterior brick wall

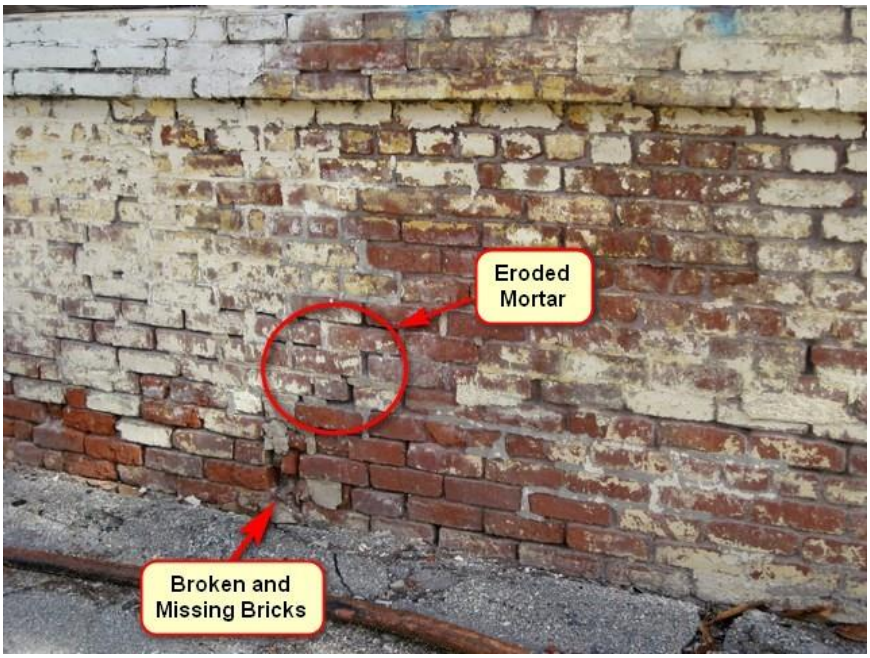


Figure 8: Deteriorated brick masonry and eroded mortar

Figure 9: Diagonal step cracks in wall at an opening

Figure 10: Severely eroded mortar

Figure 11: Damaged plaster and general condition of the kitchen area

Figure 12: Ponding at the kitchen area

Figure 13: Kitchen skylight from roof level, as seen in 2006

Figure 14: Kitchen skylight framing with glass removed

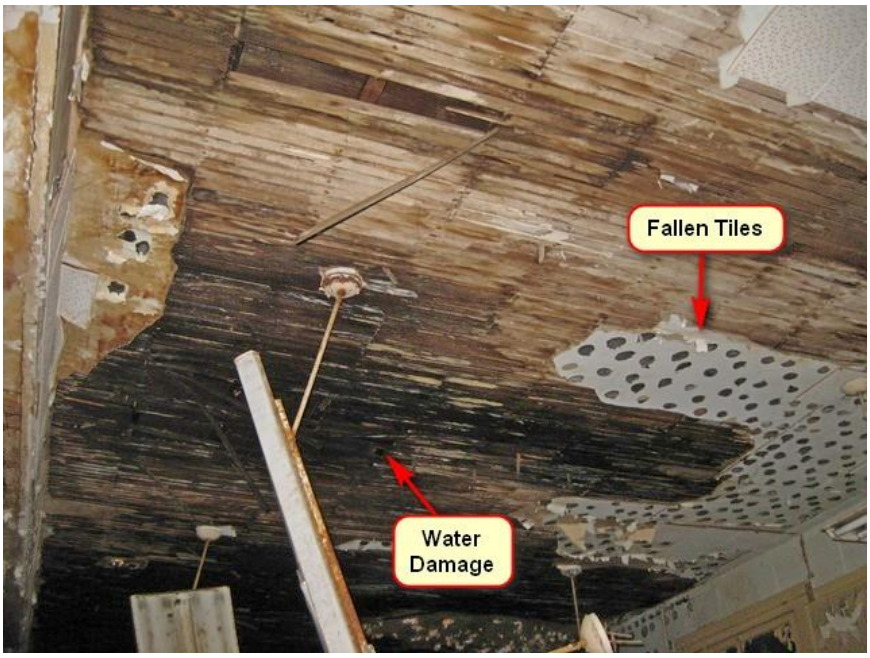


Figure 15: Damaged roof sheathing and fallen plaster tiles

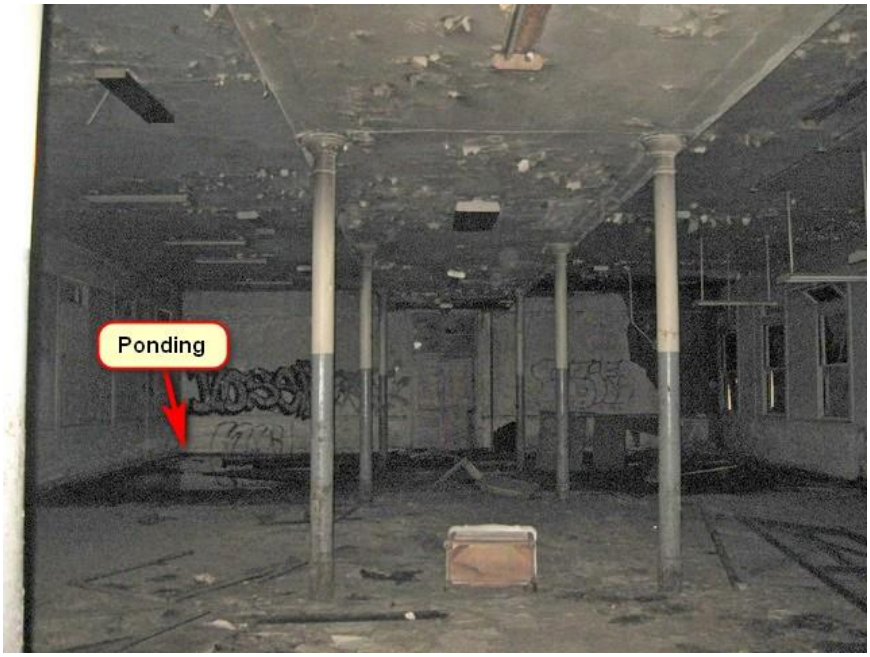


Figure 16: Pipe column supports, peeling paint and ponding at dining area

Figure 17: Damaged pilaster in the northwest wing

Figure 18: Cracks in exterior wall of the northwest wing

C LACO No. 1262 (Dining, Kitchen, Staff Room) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Dining, Kitchen, Staff Rm (LACO 1262)

Feasibility Study Cost Plan — Dining, Kitchen, Staff Rm (LACO 1262)

			SF	$/SF	TOTAL $ x 1,000
B1	Dining, Kitchen, Staff Rm (LACO 1262)		33,093	489.05	16,184
SUB-TOTAL BUILDING CONSTRUCTION			33,093	489.05	16,184
S1	Sitework		10,000	86.80	868
	Premium for enhanced sustainable site features				256
SUB-TOTAL SITEWORK					1,124
TOTAL BUILDING AND SITEWORK					**17,308**
Escalation to Midpoint (Jul 2021)		11.7%			2,019
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			1,546
	Project Management Consultant Services	3.0%			626
	FF & E	5.8%			1,247
	Taxes and Indirect Fees	1.0%			227
	Building Permit and Other Agency Fees	1.5%			345
	Owner Contingency/Construction Contingency	25.0%			5,830
Recommended Budget					***29,148***

Feasibility Study Cost Plan — Dining, Kitchen, Staff Rm (LACO 1262) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	18,993		
Level 2	14,100		
TOTAL GROSS FLOOR AREA	**33,093**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		2	EA	0.000
Gross Area		33,093	SF	1.000
Enclosed Area		33,093	SF	1.000
Covered Area		0	SF	-
Footprint Area		18,993	SF	0.574
Gross Wall Area		25,000	SF	0.755
Finished Wall Area		25,000	SF	0.755
Windows or Glazing	19%	4,800	SF	0.145
Roof Area - Flat		18,993	SF	0.574
Roof Area - Total		18,993	SF	0.574
Roof Glazing Area		0	SF	-
Interior Partitions		2,100	LF	0.063
Finished Area		33,093	SF	1.000

MGAC

Feasibility Study Cost Plan — Dining, Kitchen, Staff Rm (LACO 1262) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	33,093 SF	
A10	Foundations		3%	13.54	448
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	13.54	448
B10	Superstructure		13%	63.75	2,110
B20	Exterior Enclosure		7%	31.97	1,058
B30	Roofing		3%	14.06	465
B	Shell		22%	109.78	3,633
C10	Interior Construction		3%	16.55	548
C20	Stairways		0%	1.81	60
C30	Interior Finishes		11%	55.57	1,839
C	Interiors		15%	73.93	2,447
D10	Conveying Systems		1%	3.02	100
D20	Plumbing Systems		6%	27.13	898
D30	Heating, Ventilation & Air Cond.		9%	45.77	1,515
D40	Fire Protection		2%	8.00	265
D50	Elect'l Lighting, Power & Comm.		17%	81.17	2,686
D	Services		34%	165.09	5,463
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	8.84	292
E	Equipment & Furnishings		2%	8.84	292
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		2%	11.81	391
F	Special Construction & Demolition		2%	11.81	391
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	382.98	12,674
Z10	Design Contingency	10.00%	8%	38.30	1,267
Z11	General Requirements	4.00%	3%	16.85	558
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	438.13	14,499
Z21	General Conditions	6.00%	5%	26.29	870
Z22	Bonds & Insurance	1.50%	1%	6.97	231
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	17.68	585
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	489.06	16,184
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	489.05	16,184

MGAC

Feasibility Study Cost Plan — Dining, Kitchen, Staff Rm (LACO 1262)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				219,930
Foundation upgrade	18,993	SF	10.00	189,930
New elevator pit	1	LS	30,000.00	30,000
A1020 Special Foundations				
A1030 Slab On Grade				228,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	7,600	SF	30.00	228,000
Remove/replace ramp including railings				*site*
				447,930
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				1,669,750
Strengthen connections between floors and lateral elements	14,100	SF	10.00	*141,000*
Allow shotcrete to interior face of exterior walls	25,000	SF	40.00	1,000,000
Patch/repair damaged suspended slab, allow 75%	10,575	SF	50.00	528,750
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				439,860
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	12,993	SF	20.00	259,860
Complete new roof structure at fire damage area	6,000	SF	30.00	180,000
				2,109,610

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				546,850
New masonry wall including finish to fire damaged area	5,300	SF	35.00	185,500
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	19,700	SF	8.00	157,600
Loose fill insulation				*n/a*
Elevator corewalls	1,300	SF	75.00	97,500
Painting to exterior walls	25,000	SF	3.00	75,000
Painting to interior face of exterior walls (shotcrete area)	25,000	SF	1.25	31,250
B2020 Exterior Windows				499,200
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	3,840	SF	100.00	384,000
New windows similar kind, high performance glazing; allow 20%	960	SF	120.00	115,200
B2030 Exterior Doors				12,000
New exterior doors	4	EA	3,000.00	12,000
				1,058,050
B30 Roofing				
B3010 Roof Coverings				465,329
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	18,993	SF	24.50	465,329
				465,329
C10 Interior Construction				
C1010 Partitions				239,000
Patch/repair existing partitions, 20%	6,300	SF	30.00	189,000
New partitions	2,000	SF	25.00	50,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				152,228
New wood doors including frames and hardware (1/500)	66	EA	2,300.00	152,228
C1030 Fittings				156,372
Toilet partitions and accessories	12	EA	2,000.00	24,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screen, lockers, etc	33,093	SF	4.00	132,372
				547,600
C20 Stairways				
C2010 Stair Construction				40,000
Repair/repaint existing stairs and railing	4	EA	10,000.00	40,000
C2020 Stair Finishes				20,000
New stair finishes	4	EA	5,000.00	20,000
				60,000
C30 Interior Finishes				
C3010 Wall Finishes				449,040
Repair damaged wall plaster and repaint - interior partitions	40,000	SF	10.00	400,000
Plaster and paint to new partitions	2,000	SF	13.00	26,000
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
C3020 Floor Finishes				231,651
New floor finishes including base	33,093	SF	7.00	231,651
Existing flooring to remain, allow for cleaning		SF	0.10	
C3030 Ceiling Finishes				1,158,255
New gypsum plaster ceiling on wood lathe	33,093	SF	35.00	1,158,255
				1,838,946

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
D1010 Elevators & Lifts				100,000
Passenger elevator, 2 stops	1	EA	100,000.00	100,000
				100,000
D20 Plumbing Systems				
D2010 Plumbing Fixtures				160,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	80	EA	2,000.00	160,000
D2020 Domestic Water Distribution				262,750
Domestic service pipework				
Hose bibs, 3/4" (allowance)	4	EA	2,500.00	10,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	80	EA	3,000.00	240,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	12,750.00	12,750
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				339,279
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	33,093	SF	2.00	66,186
Condensate drainage pipework, fittings, < = 1-1/2", insulated	33,093	SF	1.00	33,093
Waste, vent, fittings, < = 6"	80	EA	3,000.00	240,000
D2040 Rain Water Drainage				99,279
Surface water drainage				
Roof & overflow drains, < = 6"	33,093	SF	3.00	99,279

	Quantity	Unit	Rate	Total
D2090 Other Plumbing Systems				36,547
Rough-in for Pantry areas				
Including floor drainage systems	33,093	SF	0.50	16,547
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	20,000.00	20,000
				897,855
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				348,759
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	1,250	mbth	27.50	34,375
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	33,093	SF	1.50	49,640
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	33,093	SF	8.00	264,744
D3040 Distribution Systems				751,832
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	41,366	LB	12.00	496,395
Dampers	1	LS	49,639.50	49,640
Insulation	31,025	SF	4.50	139,611
Diffusers, registers and grilles	33,093	SF	2.00	66,186
D3050 Terminal & Package Units				208,093
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	50	Ton	3,500.00	175,000
VAV boxes, terminal reheat (1/1,000 SF)	33	EA	1,000.00	33,093

	Quantity	Unit	Rate	Total
D3060 Controls and Instrumentation				148,919
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	33,093	SF	4.50	148,919
D3070 Systems Testing & Balancing				49,640
Test and balance air systems	33,093	SF	1.50	49,640
D3090 Other HVAC Systems & Equipment				7,500
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	7,500.00	7,500
				1,514,741

D40 Fire Protection

D4010 Sprinklers				264,744
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	33,093	SF	8.00	264,744
				264,744

D50 Elect'l Lighting, Power & Comm.

D5010 Electrical Service & Distribution				617,701
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	2,000	AM	65.00	130,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	125	kVA	975.00	121,875

	Quantity	Unit	Rate	Total
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	33,093	SF	3.50	115,826
Photovoltaic panels	50	KW	5,000.00	250,000
D5020 Lighting & Branch Wiring				1,323,720
User convenience power				
Panel board breakers, 120 V circuits	33,093	SF	2.00	66,186
Receptacles, including conduit and cable	33,093	SF	5.50	182,012
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	33,093	SF	27.50	910,058
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	33,093	SF	5.00	165,465
D5030 Communications & Security				463,302
Telephone and communications				
Telephone/data - including conduit & cable	33,093	SF	6.50	215,105
WAP	33,093	SF	1.00	33,093
DAS - Emergency response & cellular	33,093	SF	4.00	132,372
Cable tray/wire-way/j-hooks	33,093	SF	1.00	33,093
Audiovisual rough-in	33,093	SF	1.50	49,640
D5090 Other Electrical Systems				281,291
Fire alarm systems	33,093	SF	4.50	148,919
Security - perimeter access control & CCTV surveillance	33,093	SF	4.00	132,372
				2,686,013

E10 Equipment

E1020 Institutional Equipment				
				0

	Quantity	Unit	Rate	Total
E20 Furnishings				
E2010 Fixed Furnishings				292,400
Cabinets, countertops shelving and millwork	200	LF	1,000.00	200,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	4,800	SF	15.00	72,000
Entrance mat	1	LS	15,000.00	15,000
				292,400
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				192,186
Exterior window	960	SF	5.00	4,800
Doors	70	EA	150.00	10,528
Built-up roofing including roof sheathing	18,993	SF	2.00	37,986
Demo hollow clay tile partitions, interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	33,093	SF	4.00	132,372
Allow for clearing/removal of storage debris	100	MH	65.00	6,500
F2020 Hazardous Components Abatement				198,558
Hazmat abatement - allowance	33,093	SF	6.00	198,558
				390,744

MGAC

Feasibility Study Cost Plan — Dining, Kitchen, Staff Rm (LACO 1262)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Dining, Kitchen, Staff Rm (LACO 1262)				
Gross Site Area	29,000	SF		
Building footprint	18,993	SF		
Net Site Area	10,000	SF		
General site clearing, demo and remove paving/landscaping	10,000	SF	4.00	40,000
Site paving, site structures, fencing, landscaping & irrigation	10,000	SF	25.00	250,000
Premium for permeable paving	5,000	SF	13.00	65,000
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	10,000	SF	6.00	60,000
Site Utilities	10,000	SF	25.00	250,000
Alternate Cost Before Markups				**680,000**
Z10 Design Contingency	10.00%			68,000
Z11 General Requirements	4.00%			29,920
Z21 General Conditions	6.00%			46,675
Z22 Bonds & Insurance	1.50%			12,369
Z23 Contractor's Overhead, Profit & Fee	3.75%			31,386
Z30 See Overall Summary for Escalation	0.00%			
				868,350

D LACO No. 1262 (Dining, Kitchen, Staff Room) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Dining Room/ Kitchen #1262/1263

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Dining Room/Kitchen (LACO #1262/1263) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Dining Room/Kitchen #1262/1263 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Dining Room/Kitchen (LACO #1262/1263), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters/downspouts have deteriorated are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current season demonstrates that extremely heavy and frequent rainfall occurs. *In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction system.*

M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system*

		prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

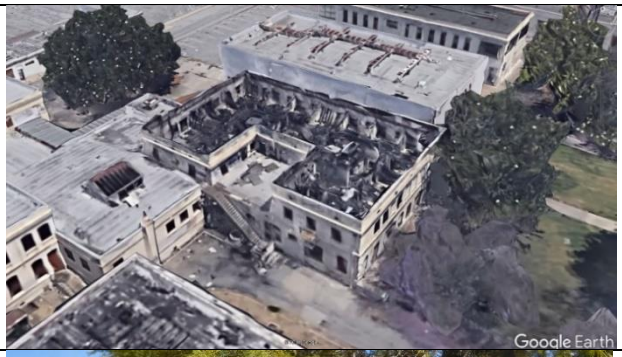
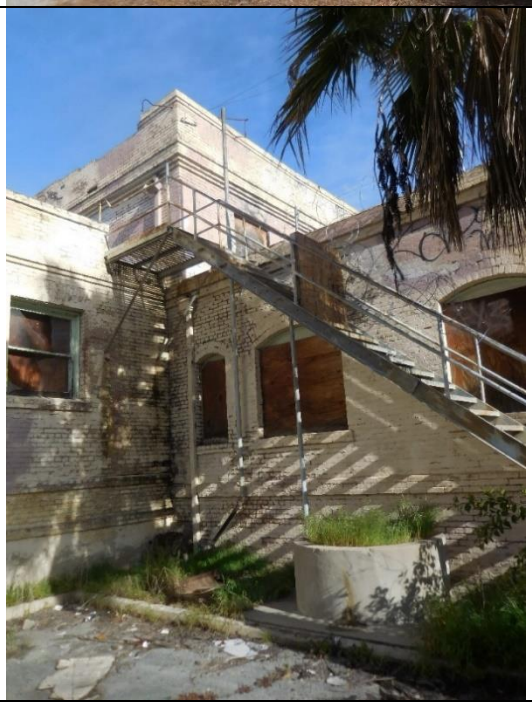
		After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins,*

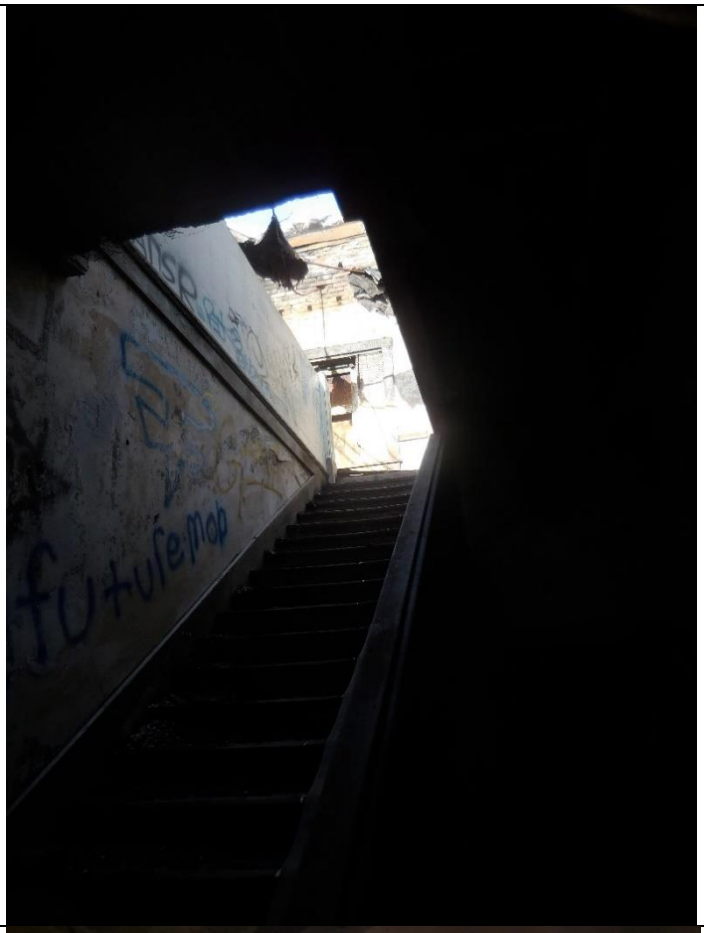
		vandalism, fire alarms, security alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department* *Install manual fire extinguishers attached*

		to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and	Yes. County staff stated that all utility services are shut off outside the buildings.

	electric lines?	Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment

		• check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	View of fire damaged area	
2	Southeast corner.	
3	South elevation with plywood at windows.	

4	Stairway to open roof at fire damaged area.	
5	Open skylight	

E LACO No. 1262 (Dining, Kitchen, Staff Room) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Dining, Kitchen, Staff Rm (LACO 1262)

MGAC

Mothballing Cost Plan — Dining, Kitchen, Staff Rm (LACO 1262)

			SF	$/SF	TOTAL $ x 1,000
B1	Dining, Kitchen, Staff Rm (LACO 1262)		33,093	24.60	814
TOTAL BUILDING CONSTRUCTION			33,093	24.60	814
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**814**
Escalation to Midpoint (Jul 2021)		11.7%			95
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			36
	Project Management Consultant Services	2.0%			19
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			10
	Building Permit and Other Agency Fees	1.5%			15
	Owner Contingency/Construction Contingency	10.0%			99
Recommended Budget					***1,088***

MGAC

Mothballing Cost Plan — Dining, Kitchen, Staff Rm (LACO 1262)

Item Description	Quantity	Unit	Rate	Total
1.) Dining, Kitchen, Staff Rm (LACO 1262)				
No of floors	***2***	***EA***		
Gross Floor Area	***33,093***	***SF***		
Gross Wall Area	***25,000***	***SF***		
Roof Area	***18,993***	***SF***		
Windows Area	***4,800***	***SF***		
Gross Site Area	***29,000***	***SF***		
Building footprint	***18,993***	***SF***		
Net Site Area	***10,000***	***SF***		
Stabilized structure	33,093	SF	2.50	82,733
Repaint exterior walls	25,000	SF	2.00	50,000
Protect existing openings (exterior doors)	12	EA	800.00	9,600
Install hard protection/boarding to windows	4,800	SF	25.00	120,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	25,000	SF	0.10	2,500
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	18,993	SF	15.00	284,895
Termites, ants, rodents etc - inspection and allowance for treatment	33,093	SF	0.25	8,273
Install smoke & fire detectors including wiring	33,093	SF	1.00	33,093
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilites				*n/a*
Fire extinguishers	12	EA	275.00	3,300
Remove debris and broom clean	33,093	SF	0.75	24,820
Clear site of weeds and overgrown trees	10,000	SF	0.50	5,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**633,714**
Z10 Design Contingency	15.00%			95,057
Z11 General Requirements	3.00%			21,863
Z21 General Conditions	3.00%			22,519
Z22 Bonds & Insurance	1.50%			11,597
Z23 Contractor's Overhead, Profit & Fee	3.75%			29,428
				814,178

Feasibility Study Reports for LACO No. 1263 (Commissary & Receiving)

Primary Contributor

ESA

A LACO No. 1263 (Commissary & Receiving) – Architectural Assessment Report

Dining room, Kitchen, Staff room, Commissary (LACO 1262, 1263)

33,093 s.f.
4,089 s.f. Commissary
Primary Contributor to the Historic District

Building Description

Comprised of six attached building wings and additions, the Dining Room, Kitchen, Staff Room, Commissary and Receiving Room complex (LACO No. 1262, 1263) is set back from Erickson Avenue, north and west of the General Ward buildings. The west (rear) elevation of the Complex faces Juniper Street. Constructed in stages between 1912 and 1926, the Complex is a large, asymmetrical massed building whose L-shaped floor plan resembles a pistol. The brick vernacular Complex consists of the two-story circa 1912 Commissary and Receiving Building (LACO No. 1263); the two-story 1913 Dining Room, Game and Staff Building; the one-story circa 1917 Kitchen wing; the two-story circa 1920 Dining Room wing; the two-story 1924 Dining Room expansion wing; and the one-story circa 1926 wing linking the Kitchen wing to the Commissary building (the latter 5 wings collectively referred to as LACO No. 1262). A bridge extends over a walkway and connects the Complex to General Wards 30 and 40.

Above a concrete foundation, the exterior walls of the complex are unreinforced brick laid in common bond and currently painted. The flat roof is hidden by a parapet; the roof of the Kitchen wins is distinguished by a large skylight. Corbelled and raised brick courses wrap the building and define the cornice and frieze, separate the first and second stories, and delineate the base of the wall plate. Brick dentils accent the frieze on the Commissary building. The fenestration can generally be described as rows of large, evenly spaced, segmentally arched openings containing wood-framed, one-over-one, double-hung sash windows. Triple courses of header bricks define the arches. Windows are flat headed; some are topped with transoms. Raised brick sills are provided when the windows do not sit directly on the spring courses atop the wall base or separating the levels. Numerous entries, are located on nearly all elevations, providing access to the building, including some second story entrances reached via attached metal staircases. A receiving dock is located on the west. Some original wood doors, both single- and double-leaved, are in situ. Concrete ramps with pipe railings surround much of the building. The complex is in deteriorated condition and its windows and door are covered with plywood. A fire in 2005, extensively damaged the northeast wing of the building, destroying the roof and the interior of the second story.[1]

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 205 (LACO No. 1262, 1263),* prepared for the County of Los Angeles June 2, 2008.

Statement of Significance

The significance of LACO No. 1262 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> The Dining Room, Kitchen, Staff Room, Commissary and Receiving Room complex (LACO No. 1262, 1263) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected from 1912 to 1926 as the primary Dining Room and Kitchen for the County Poor Farm. By the mid-1920s, growth of the County Farm prompted the construction of "Kitchen #2" (now the Kitchen and Dining building, LACO No. 1295) to relieve the burden on this earlier facility. The Complex continued to be used for food preparation and dining, as well as for housing and other functions, until Rancho Los Amigos began relocating all medical activities to the North Campus area across East Imperial Highway. The Complex is currently abandoned.
>
> The Dining Room, Kitchen, Staff Room, Commissary and Receiving Room complex evolved over a period of approximately 14 years in response to the expanding capacity and functions of the County Farm. The earliest portion of the Complex, the Commissary Building (LACO No. 1263), was built circa 1912 and was among the first buildings constructed at the institution during Superintendent Charles C. Manning's tenure. Known as the Old Rancho Store, the building later was used for shipping and receiving. In 1913, the north wing of the Complex (LACO No. 1262) was constructed to house Dining, Game, and Staff Rooms (sometimes later, the first-floor dining room was converted into a reading room). In the following years, Superintendent William R. Harriman made several additions to the complex, including the addition of a one-story Kitchen wing (circa 1917) to the southwest corner of the 1913 building and a two-story Dining Room wing (circa 1920) south of the new Kitchen wing. In 1924, Dining Room space was expanded by a two-story addition to the west elevation of the circa 1920 Dining Room wing (in later years, this building was used as the Print Shop for the campus). The last addition to the Complex occurred circa 1926, when a one-story extension linked the Kitchen wing to the Commissary Building. At least one of the additions to the Complex, the 1913 north wing, was designed by the prominent Los Angeles architectural firm, Hudson and Munsell, according to the original architectural drawings. The Kitchen and Dining Room served both staff and ambulatory patients and was known as the "dormitory kitchen" because of its proximity to the General Ward Buildings. In addition, meals were prepared for patients in the psychiatric wards and delivered by cart. Diet had been emphasized as a critical component of health, recovery, and well-being at the County Farm since its beginnings, and in 1924 a professional dietitian was added to the staff.[2]

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, Dining Room, Kitchen and Staff Room (LACO No. 1262 & 1263),* prepared for the County of Los Angeles January 8, 2018.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Exterior walls –** Exterior masonry which is damaged in minimal amount of areas. It is repairable in most areas.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **206 wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were vandalized, and areas had water damage. A substantial portion of the second floor was destroyed due to arson. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **33,000 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **33,000 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing** – Replace entire built-up roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **33,000 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer	

recommended installation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **206 wood windows** • **25% replace in kind**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	

Interior Spaces

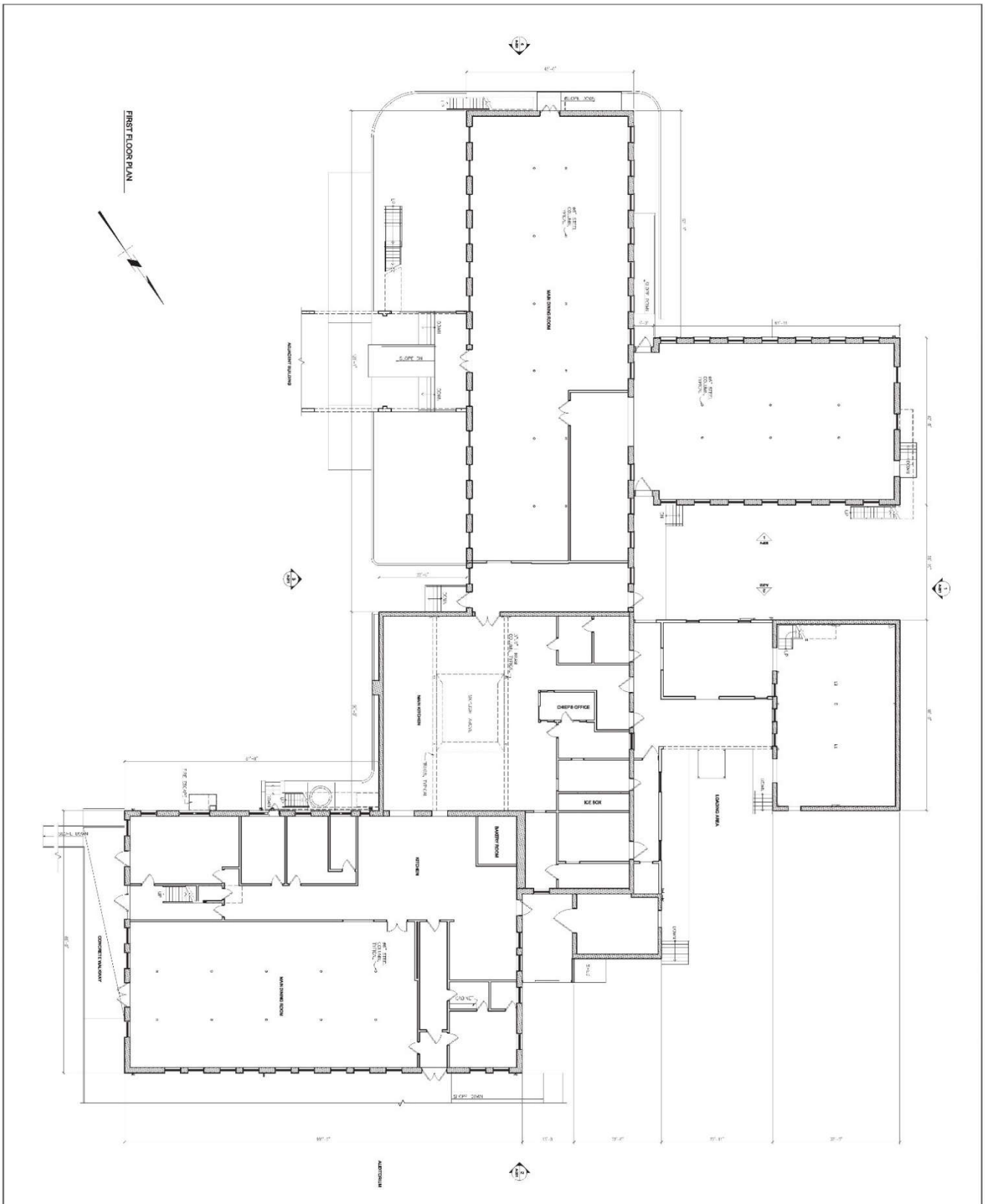
The existing interior spaces were severely vandalized and water damaged. A substantial portion of the second floor was destroyed by fire. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan with no character defining elements.

It is assumed that this structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring at second floor	• **33,000 s.f.**
• **Walls –** Remove paint from masonry walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow clay tile walls to be encapsulated with 4" 16 ga. Studs and gyp bd. each side.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	

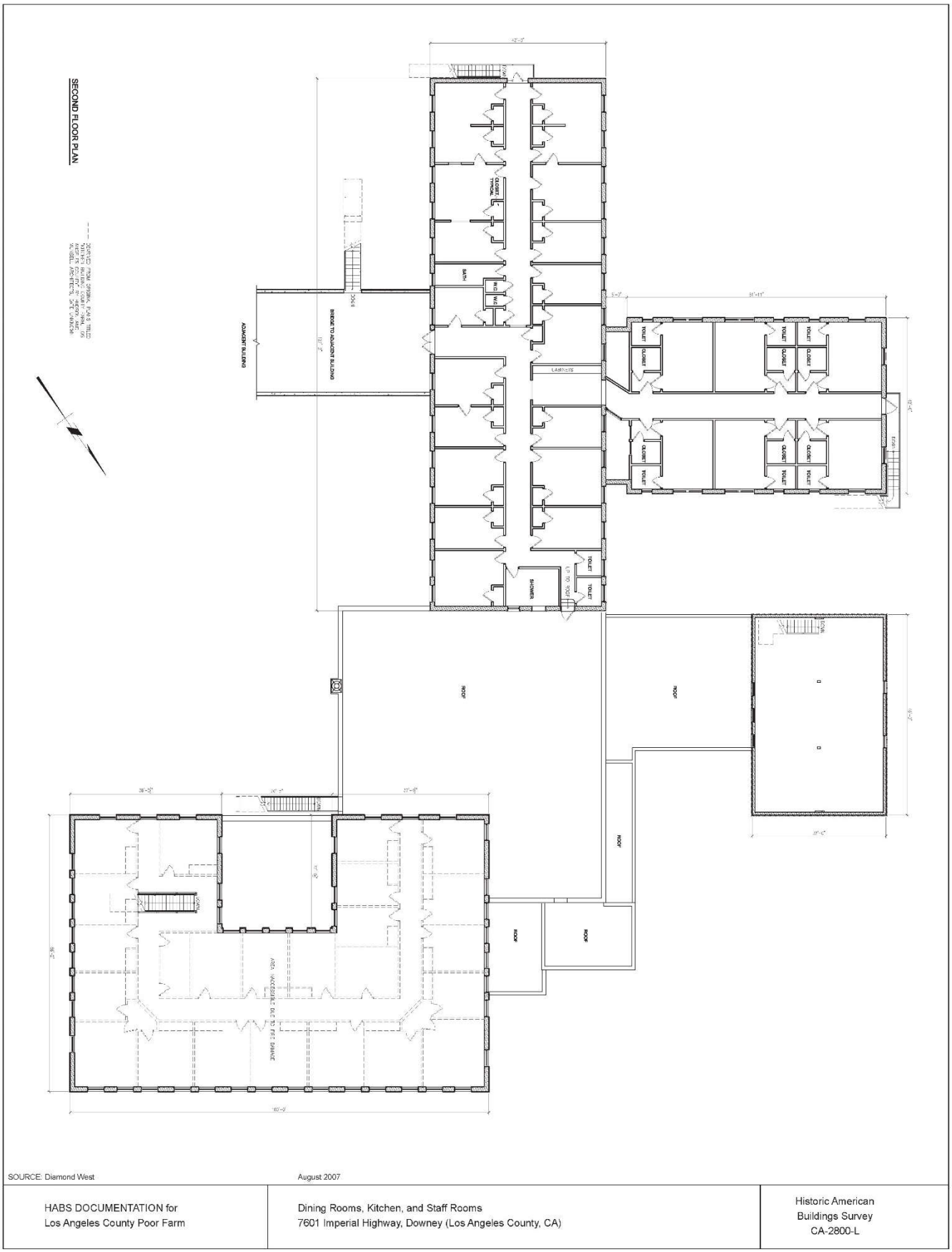
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **33,000 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **200 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space	• **4 restroom cores,** • **12 fixtures, 8 sinks.**
• **Electrical** – Provide new 2000 Amp system.	
• **Elevator –** Provide new 3,000 lb. elevator.	• **3,000 lb. elevator**
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	

HABS DOCUMENTATION for
Los Angeles County Poor Farm
Dining Rooms, Kitchen, and Staff Rooms
7601 Imperial Highway, Downey (Los Angeles County, CA)
Historic American
Buildings Survey
CA-2800-L
SOURCE: Diamond West
August 2007
WEST ELEVATION
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION



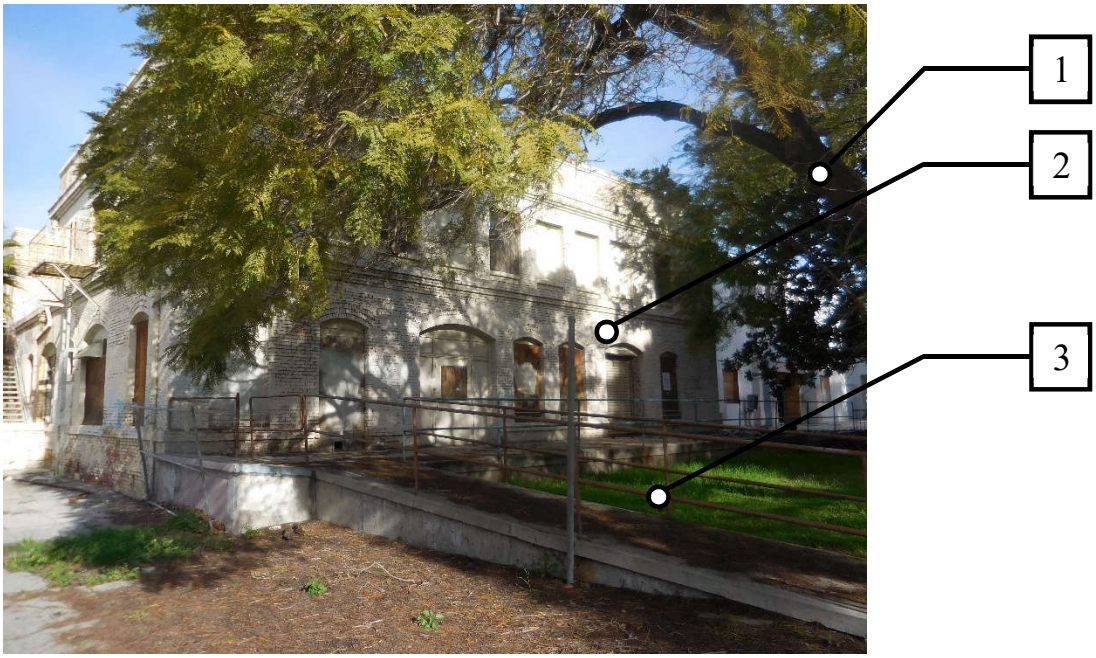
SOURCE: Diamond West August 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	Dining Rooms, Kitchen, and Staff Rooms 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-L



SOURCE: Diamond West August 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	Dining Rooms, Kitchen, and Staff Rooms 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-L

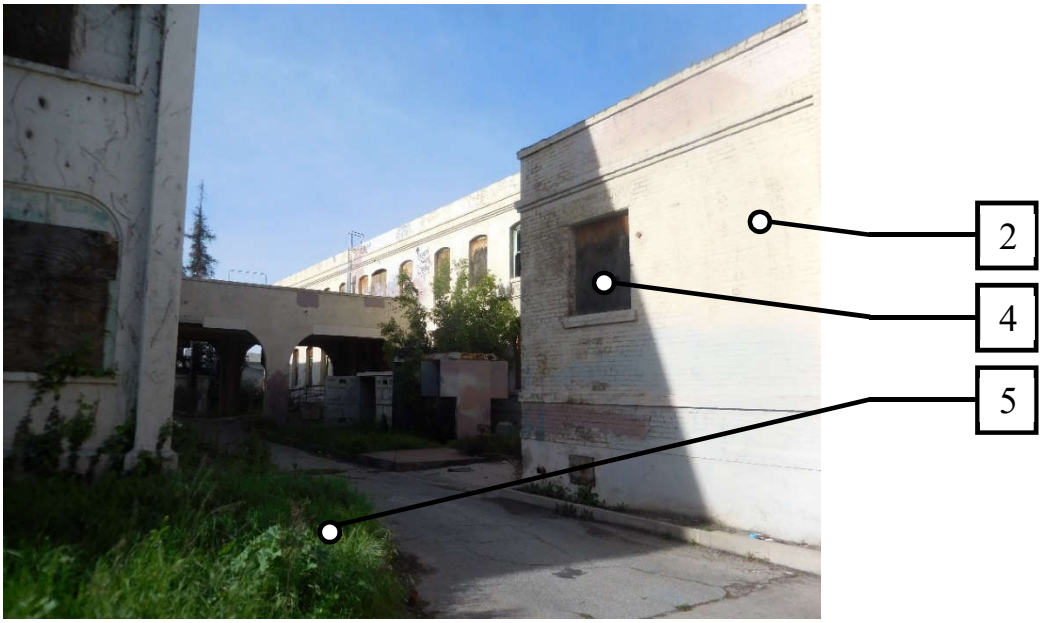


East Elevation

Courtyard South Elevation

1. Protect tree and root structure.
2. Repair brick, masonry and grout.
3. Provide new guardrail and ramp assembly.
4. Remove plywood and repair wood windows.
5. Remove and replace landscape and hardscape.
6. Repair skylight and provide laminated glazing.
7. Repair and paint columns.
8. Clean debris.
9. Entire roof structure to be re-built in this area.

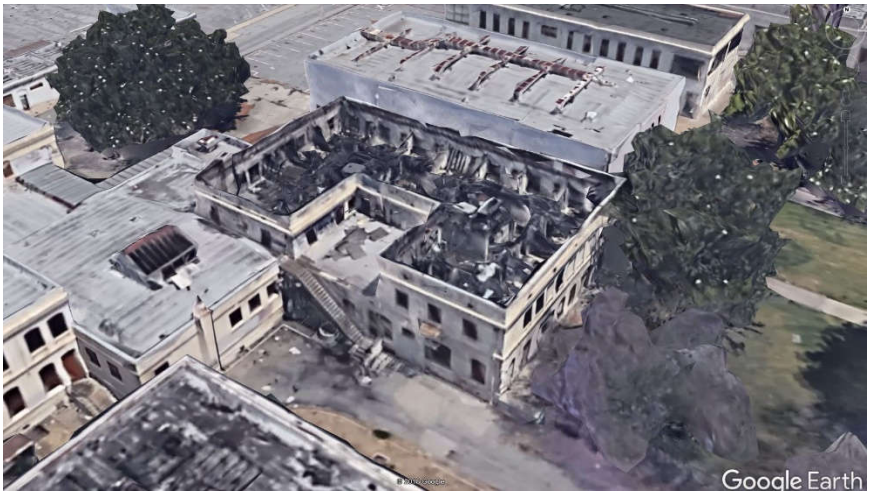
East Elevation Courtyard



Courtyard Adjacent to General Ward 30

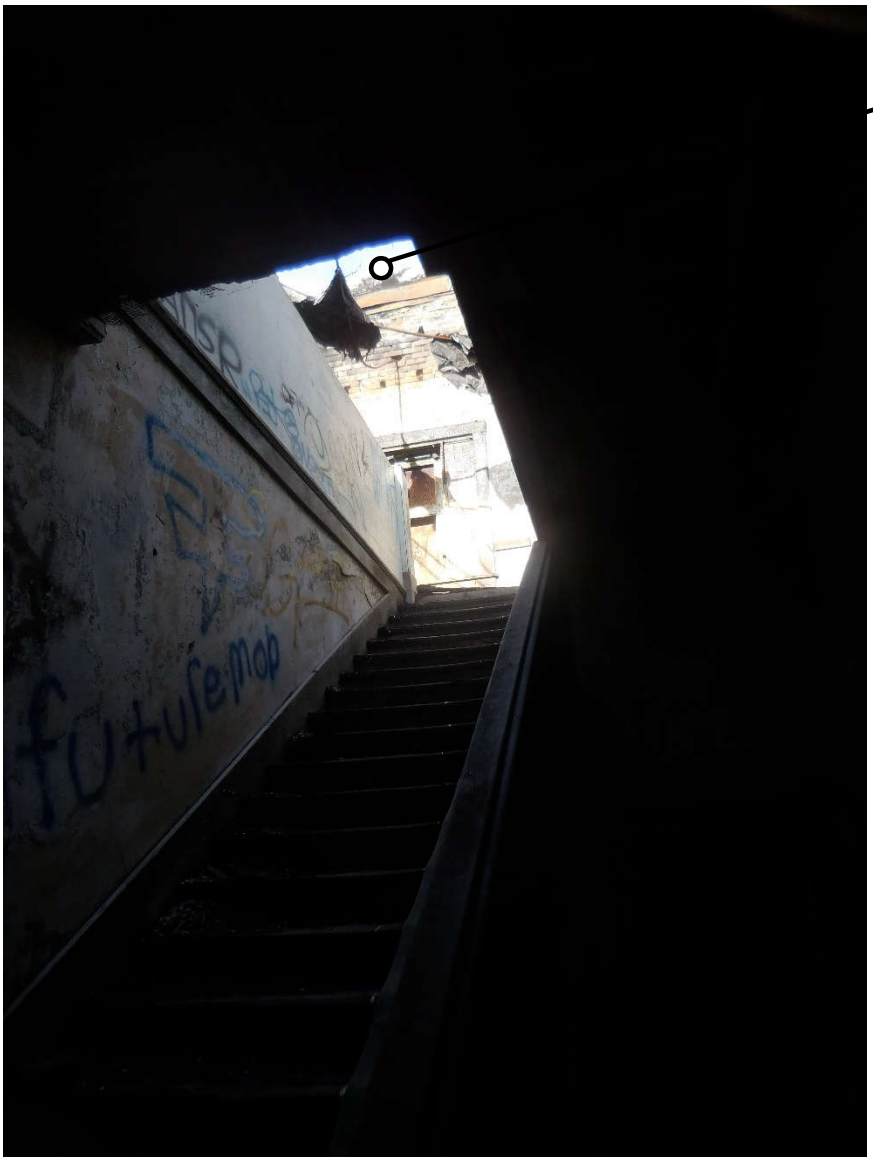
1. Protect tree and root structure.
2. Repair brick, masonry, and grout.
3. Provide new guardrail and ramp assembly.
4. Remove plywood and repair wood window.
5. Remove and replace landscape and hardscape.
6. Repair skylight and provide laminated glazing.
7. Repair and paint columns.
8. Clean debris.
9. Entire roof structure to be re-built in this area.

Interior at open skylight-water intrusion



Google map image of fire damage

1. Protect tree and root structure.
2. Repair brick, masonry, and grout.
3. Provide new guardrail and ramp assembly.
4. Remove plywood and repair wood windows.
5. Remove and replace landscape and hardscape.
6. Repair skylight and provide laminated glazing.
7. Repair and paint columns.
8. Clean debris.
9. Entire roof structure to be re-built in this area.



Open stairwell at destroyed roof

1. Protect tree and root structure.
2. Repair brick, masonry, and grout.
3. Provide new guardrail and ramp assembly.
4. Remove plywood and repair wood windows.
5. Remove and replace landscape and hardscape.
6. Repair skylight and provide laminated glazing.
7. Repair and paint columns.
8. Clean debris.
9. Entire roof structure to be re-built in this area.

B LACO No. 1263 (Commissary & Receiving) – Structural Assessment Report

Structural Assessment: Dining, Kitchen, Commissary & Staff Rooms
(LACO NOs. 1262 & 1263)

Summary of Assessment

The Dining, Kitchen, Commissary and Staff Rooms building complex was constructed between 1912 and circa 1927. The existing building complex is comprised of six buildings and additions that are connected to each other, with a total area of approximately 37,138 square feet. The complex is two stories with unreinforced masonry walls at the perimeter and wood framed walls, floors, and roofs at the interior. The complex has seen at least two or three significant fires, and large portions of the buildings have been heavily damaged or destroyed as a result. The fires have left some of the walls completely free standing, which could mean there is a serious risk of collapse. Other portions of this building have experienced significant deterioration for other reasons, including extreme water damage. Due to the severely damaged condition of the building complex and the potential safety risks associated with such damage, only portions of the complex were observed.

The structures of the complex are in poor condition, with extensive damage and deterioration visible throughout the entire complex. The expected seismic performance of this building in its current condition is poor; the complex does not appear to have a sufficient lateral force resisting system. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of the structures of LACO Nos. 1262 and 1263. A detailed summary of these measures is included in the final section of this report. However, bringing unreinforced masonry buildings up to a Life Safety Performance Level often involves extensive reconstruction work. Furthermore, some structures within the complex may need to be completely demolished and re-built in order to fully rehabilitate the complex to a Life Safety Performance Level.

Description of the Building

The Dining, Kitchen, Commissary and Staff Rooms building complex, shown in Figure 1, is structurally considered a single structure because there are no seismic joints or separations that would allow for independent movement in the event of an earthquake. There are no available plans for these buildings; therefore, the information in this report is based solely on the site observation. Figure 1 shows an aerial view of the complex with the various wings identified. The construction of this building is two-story brick masonry exterior walls, 18 inches thick, with wood framing forming the interior walls, floor, and ceilings.

The northeast wing of the building, which is assumed to include the staff rooms, was severely damaged by a previous fire. The entire second floor and portions of the first floor did not appear safe enough to inspect. The exterior brick masonry walls appear to be unreinforced. The first-floor interior walls are constructed of 2-inch-thick framing with plaster over metal screen lath. The second-floor interior walls are 2-inch-thick framing with plaster over wood lath. The first-floor ceiling is plaster over metal screen lath.

The northeast wing is connected on its south side to the rest of the complex by a one-story roof structure where the kitchen was located. The exterior walls are unreinforced brick masonry. The ceiling here appears to be plaster over metal lath. In the middle of the room, there is a damaged vaulted skylight. There are two bays of dropped beams across the room. The dropped beams are covered by plaster and supported by steel wide flange columns.

Adjoining the kitchen on the west side is LACO No. 1263, a two-story structure labeled as the northwest wing and once used as the receiving building for the complex. This structure is of similar construction to the rest of the building: unreinforced brick masonry exterior walls, 2-inch wood joists, and straight board sheathing. In this structure, the wood beam at the middle of the room appears to be supported on wood posts.

Across the hallway from the kitchen, on the south side, is another two-story building. At the first floor is an open area, assumed to be the dining area. The construction of this room is similar to that of the kitchen, with two rows of steel pipe columns supporting the dropped beams that span north to south down the center of the building. The second floor appears to consist of diagonal sheathing over 2-inch wood floor joists. The dining area extends into the west wing at the first floor, which is assumed to be of similar construction.

Condition Assessment

In the northeast wing of the building, the staff rooms were severely damaged by fire. The exterior brick masonry walls, two stories high, are still standing though some bricks appear to have fallen off the top of the walls. The wood framed roof is gone, and the interior structure is open to the sky (Figure 2). The absence of the roof and diaphragm means that the exterior walls at the staff rooms have lost their lateral support; they are free-standing and could easily collapse. Part of the second-floor wood framing still exists, though it is severely damaged, and the stairways from the first floor to the second are likely unsafe for use. Examples of this damage are shown in Figure 3 and Figure 4. At least 80% of the second-floor structure appears to have sustained fire damage. In several places, the joists are so charred that they have broken or snapped (Figure 3). Plaster walls and ceilings are significantly damaged and large portions of plaster have fallen (Figure 4 and Figure 5).

In areas not damaged by fire, there are signs of significant water damage. Water stains and calcium deposits are visible at the underside of the second-floor sheathing (Figure 6). The entire second floor of this wing is exposed due to the missing roof, and calcium deposits are caused by long term exposure to significant amounts of moisture. It is likely that 60% to 100% of the northeast wing has significant water damage.

The exterior walls typically contain dislodged bricks and significant cracks (Figure 7 and Figure 8). These cracks reveal the low shear capacity of the walls and the inadequate bonding of the materials used. There are also several diagonal cracks observed at exterior wall openings, as shown in Figure 9. These cracks may be caused by foundation settlement or displacement due to nearby earthquakes. The mortar between bricks shows signs of significant deterioration (Figure 8 and Figure 10)[1]. These walls are in poor condition and in need of significant strengthening and repairs.

In the kitchen area, where the skylight glass has been removed, the framing is now exposed to the elements. This causes the building materials to deteriorate at a faster rate. As seen in Figure 11, the plaster is cracking, and in places, falling. The steel posts have rusted. Ponding at the floor, shown in Figure 12, is an indication that the floor slab may also be deteriorated. The wood framing and sheathing is likely rotted and deteriorating due to excessive moisture. The skylight is shown from above in Figure 13 (though this shows conditions in 2006) and from below in Figure 14 (current condition).

Excessive damage was observed in the west wing and south portion of the building as well. Water damage is evident in the second-floor framing and sheathing (Figure 15). The wood appears to be deteriorated and rotting. Plaster tiles have fallen from the ceiling. In areas where the plaster ceiling is still intact, peeling of the paint suggests high moisture content and further water damage. Ponding on the floor slab, shown in Figure 16, may have affected the structural integrity of the slab.

At the northwest wing, conditions were similar to those observed throughout the rest of the building. Water damage and fire damage were evident at the underside of the second-floor framing. Figure 17 shows damage to a brick pilaster,

[1]*Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

which was likely intended to provide substantial gravity support. Cracking could be seen at the exterior brick walls, as shown in Figure 18.

The connection between floor and roof framing members and the brick walls is unknown. It is likely that the connections are not sufficient and will need to be strengthened. Proper connections should be added where the steel posts connect to the floor slab and to the beams they support. It is assumed that the diaphragm anchorage, diaphragm capacity, and possibly the ledger attachments are inadequate.

Evaluation of Structural Performance

Overall, this building complex is in poor condition and seems to be unsafe for occupancy. The second-floor framing of the majority of the complex has unknown, though minimal, structural integrity and should not be used at all. The staff rooms have been destroyed by fire and the only portion remaining is the brick masonry walls at the exterior. These walls likely provide no structural value, but feasibly may remain if proper strengthening measures are taken and a new structure with a supporting lateral system is installed within the walls.

The building wings, which are not as severely damaged, must still be significantly strengthened. These tall deteriorated masonry walls may be at risk of partial collapse and could be falling hazards. Since they have no lateral reinforcement, they do not have adequate out-of-plane strength or shear strength. These walls must be strengthened and properly supported. The floor and roof diaphragms throughout the building would most likely be found insufficient to transfer the necessary lateral forces. Significant amounts of interior wall, floor, and ceiling framing would need to be replaced either due to damage, deterioration, or insufficient strength. Additionally, the plaster ceilings found throughout this building pose a threat of falling during an earthquake. This could harm occupants or block corridors and exits. Measures should be taken to replace the ceiling with a properly anchored ceiling system.

Summary of Proposed Upgrades

The expected structural performance of the Dining, Kitchen, Commissary and Staff Rooms building complex (LACO Nos. 1262 and 1263) is poor. The following rehabilitation methods, at a minimum, are required for the buildings to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the masonry walls. Strengthening will likely be needed on all walls, likely across the entirety of each wall's surface area. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced masonry walls. Shotcrete would most likely be required on all masonry walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the shotcrete. Once shotcrete is applied, the interior brick and any wall mounted industrial interior piping may no longer be visible.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient than other methods for providing protection of character-defining features while increasing performance and strength.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be interrupted by a network of steel tube framing.
- Upgrade foundations beneath the walls to resist overturning forces.
- Anchor the walls to the foundation.

- Strengthen or replace interior walls that will be needed for the lateral resisting system of the building. Add plywood to existing wood stud walls, as well as holdowns and anchors to the foundation below. New foundations or foundation strengthening may be required.
- Provide new interior shear walls if needed to complete the lateral resisting system. New footings would be required beneath the walls.

Diaphragm

- Replace existing roofing with a new plywood diaphragm. This is likely needed for the entire roof.
- Replace existing flooring with a new plywood diaphragm. This is expected to be needed for 80% to 100% of the second floor.
- Provide proper fastening of the diaphragm to the wood framing (increased nailing). The diaphragm should only be fastened to new framing, or to existing framing that has been determined to have sufficient capacity.
- Install new steel anchors between walls and diaphragm. Anchors would be installed around the entire perimeter of each building. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross tie straps, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Replace broken, deteriorated, and insufficient wood members.
- Inspect the connection of the roof framing to the exterior walls and strengthen as needed.

General Condition

- Reconstruct all interior wall, floor, and roof framing that has been destroyed, damaged, or deteriorated. Properly anchor this framing to the new diaphragms and to the exterior walls. It is expected that 50% to 100% of the complex's walls, floors, and roofs will need to be repaired.
- Properly anchor all brick masonry above grade to new or existing supports to mitigate falling hazards. This can be done with post installed anchors or FRP.
- Replace any deteriorated masonry. Patch and grout all areas where spalling and cracking has occurred.
- Repair the eroded mortar. It is expected that 30% to 70% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building may need to be repointed.
- Replace all plaster ceilings with properly anchored and supported ceilings.
- Provide proper connections where steel posts connect to the slab below and to the beams above.
- Replace any posts that are significantly deteriorated or damaged.

Figure 1: Aerial view of the complex

Figure 2: Second floor at the northeast wing where the roof is missing

Figure 3: Fire damage at second-floor framing, including a severely charred and broken beam

Figure 4: Typical damage to second-floor framing in the northeast wing

Figure 5: Damaged interior partition wall in northeast wing

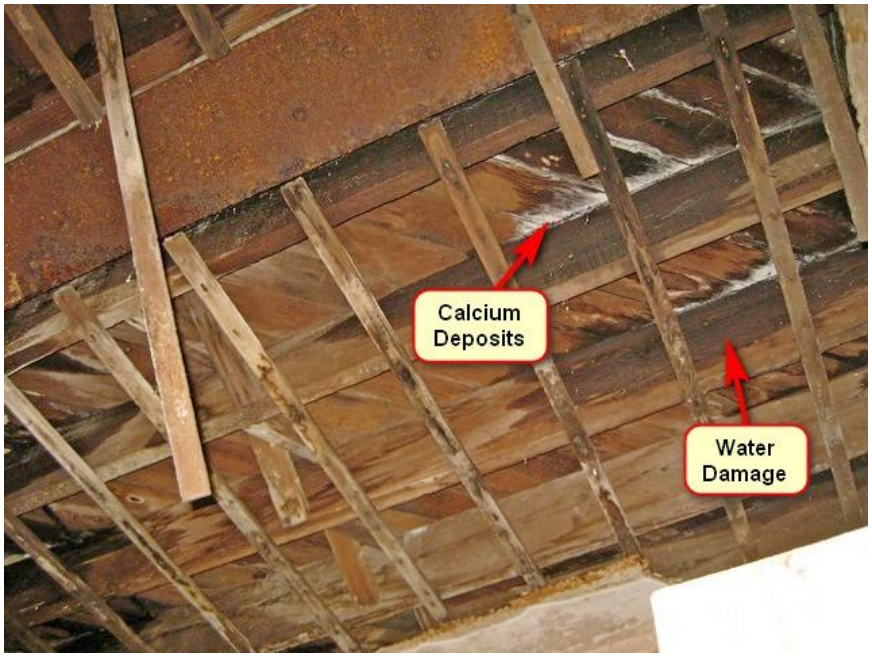


Figure 6: Evidence of prolonged moisture exposure at second-floor framing

Figure 7: Cracking in exterior brick wall

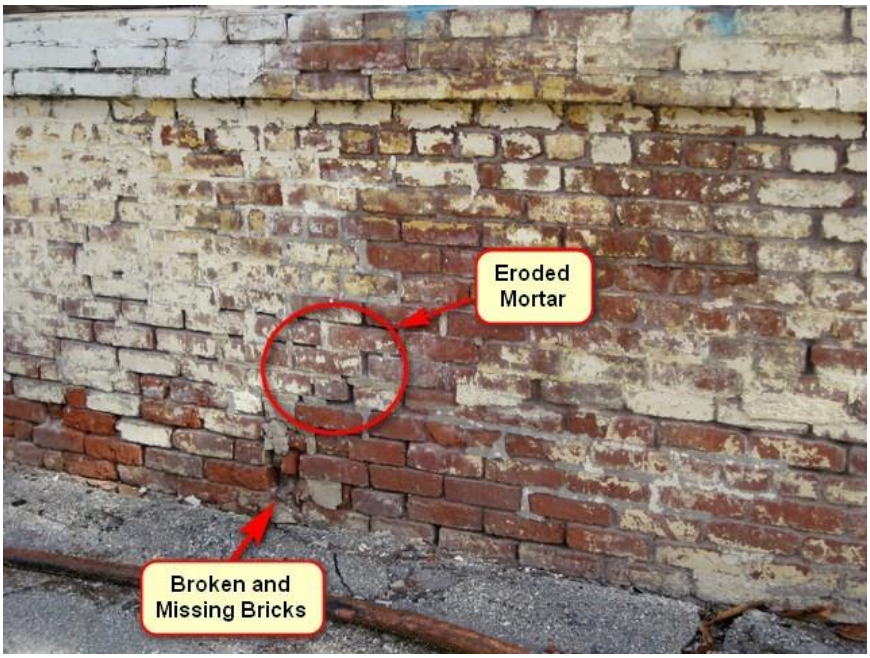


Figure 8: Deteriorated brick masonry and eroded mortar

Figure 9: Diagonal step cracks in wall at an opening

Figure 10: Severely eroded mortar

Figure 11: Damaged plaster and general condition of the kitchen area

Figure 12: Ponding at the kitchen area

Figure 13: Kitchen skylight from roof level, as seen in 2006

Figure 14: Kitchen skylight framing with glass removed

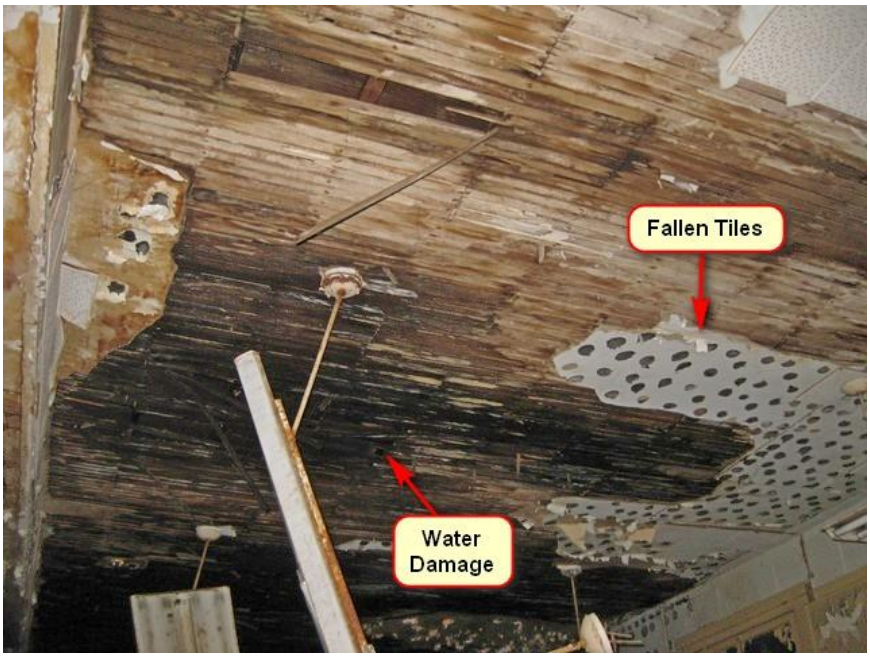


Figure 15: Damaged roof sheathing and fallen plaster tiles

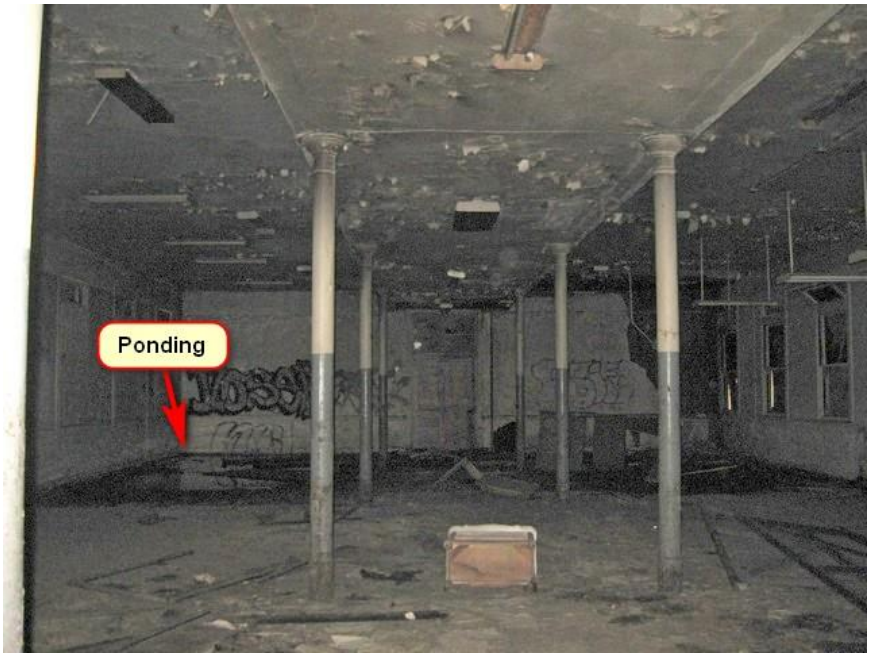


Figure 16: Pipe column supports, peeling paint and ponding at dining area

Figure 17: Damaged pilaster in the northwest wing

Figure 18: Cracks in exterior wall of the northwest wing

C LACO No. 1263 (Commissary & Receiving) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Commissary & Receiving (LACO 1263)

MGAC

Feasibility Study Cost Plan — Commissary & Receiving (LACO 1263)

			SF	$/SF	TOTAL $ x 1,000
B1	Commissary & Receiving (LACO 1263)		4,089	474.93	1,942
SUB-TOTAL BUILDING CONSTRUCTION			4,089	474.93	1,942
S1	Sitework	incl in LACO 1262		0.00	10
	Premium for enhanced sustainable site features				29
SUB-TOTAL SITEWORK					39
TOTAL BUILDING AND SITEWORK					**1,981**
Escalation to Midpoint (Jul 2021)		11.7%			231
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			177
	Project Management Consultant Services	3.0%			72
	FF & E	5.8%			143
	Taxes and Indirect Fees	1.0%			26
	Building Permit and Other Agency Fees	1.5%			39
	Owner Contingency/Construction Contingency	25.0%			667
Recommended Budget					***3,336***

Feasibility Study Cost Plan — Commissary & Receiving (LACO 1263) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	2,045		
Level 2	2,044		
TOTAL GROSS FLOOR AREA	**4,089**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.000
Gross Area		4,089	SF	1.000
Enclosed Area		4,089	SF	1.000
Covered Area		0	SF	-
Footprint Area		2,045	SF	0.500
Gross Wall Area		4,300	SF	1.052
Finished Wall Area		4,300	SF	1.052
Windows or Glazing	19%	820	SF	0.201
Roof Area - Flat		2,045	SF	0.500
Roof Area - Total		2,045	SF	0.500
Roof Glazing Area		0	SF	-
Interior Partitions		100	LF	0.024
Finished Area		4,089	SF	1.000

MGAC

Feasibility Study Cost Plan — Commissary & Receiving (LACO 1263) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	4,089 SF	
A10	Foundations		2%	11.00	45
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	11.00	45
B10	Superstructure		15%	69.56	284
B20	Exterior Enclosure		7%	35.41	145
B30	Roofing		3%	12.25	50
B	Shell		25%	117.22	479
C10	Interior Construction		3%	12.36	51
C20	Stairways		0%	1.22	5
C30	Interior Finishes		10%	46.89	192
C	Interiors		13%	60.48	247
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.78	81
D30	Heating, Ventilation & Air Cond.		10%	45.33	185
D40	Fire Protection		2%	8.00	33
D50	Elect'l Lighting, Power & Comm.		17%	80.09	327
D	Services		32%	153.20	626
E10	Equipment		0%	0.00	0
E20	Furnishings		3%	15.24	62
E	Equipment & Furnishings		3%	15.24	62
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	14.79	60
F	Special Construction & Demolition		3%	14.79	60
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	371.93	1,521
Z10	Design Contingency	10.00%	8%	37.19	152
Z11	General Requirements	4.00%	3%	16.36	67
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	425.49	1,740
Z21	General Conditions	6.00%	5%	25.53	104
Z22	Bonds & Insurance	1.50%	1%	6.77	28
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	17.17	70
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	474.95	1,942
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	474.93	1,942

MGAC

Feasibility Study Cost Plan — Commissary & Receiving (LACO 1263)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				20,450
Foundation upgrade	2,045	SF	10.00	20,450
New elevator pit				n/a
A1030 Slab On Grade				24,540
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	818	SF	30.00	24,540
Remove/replace ramp including railings				*site*
				44,990
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				243,540
Strengthen connections between floors and lateral elements	2,044	SF	10.00	20,440
Allow shotcrete to interior face of exterior walls	4,300	SF	40.00	*172,000*
Elevator corewalls				
Patch/repair damaged suspended slab, 50%	1,022	SF	50.00	51,100
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				40,900
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	2,045	SF	20.00	40,900
				284,440

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				52,675
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	4,300	SF	8.00	34,400
Painting to exterior walls	4,300	SF	3.00	12,900
Loose fill insulation				*n/a*
Painting to interior face of exterior walls (shotcrete area)	4,300	SF	1.25	5,375
B2020 Exterior Windows				86,100
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	615	SF	100.00	61,500
New windows similar kind, high performance glazing; allow 25%	205	SF	120.00	24,600
B2030 Exterior Doors				6,000
New exterior doors	2	EA	3,000.00	6,000
				144,775
B30 Roofing				
B3010 Roof Coverings				50,103
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	2,045	SF	24.50	50,103
B3020 Roof Openings				
				50,103
C10 Interior Construction				
C1010 Partitions				25,000
Net partitions	1,000	SF	25.00	25,000
C1020 Interior Doors				9,200
New wood doors including frames and hardware	4	EA	2,300.00	9,200

	Quantity	Unit	Rate	Total
C1030 Fittings				16,356
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screen, lockers, etc	4,089	SF	4.00	16,356
				50,556
C20 Stairways				
C2010 Stair Construction				5,000
Repair/repaint existing stairs and railing	1	EA	5,000.00	5,000
C2020 Stair Finishes				
Stair finishes				*included*
				5,000
C30 Interior Finishes				
C3010 Wall Finishes				20,000
Plaster and repaint - interior partitions	2,000	SF	10.00	20,000
Ceramic wall tiles to toilets				n/a
C3020 Floor Finishes				28,623
New floor finishes including base	4,089	SF	7.00	28,623
Existing flooring to remain, allow for cleaning				n/a
C3030 Ceiling Finishes				143,115
New gypsum plaster ceiling on wood lathe	4,089	SF	35.00	143,115
				191,738

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
D1010 Elevators & Lifts				
Passenger elevator, 2 stops				*n/a*
				0
D20 Plumbing Systems				
D2010 Plumbing Fixtures				12,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	6	EA	2,000.00	12,000
D2020 Domestic Water Distribution				22,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	6	EA	3,000.00	18,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	1,750.00	1,750
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				30,267
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	4,089	SF	2.00	8,178
Condensate drainage pipework, fittings, < = 1-1/2", insulated	4,089	SF	1.00	4,089
Waste, vent, fittings, < = 6"	6	EA	3,000.00	18,000
D2040 Rain Water Drainage				12,267
Surface water drainage				
Roof & overflow drains, < = 6"	4,089	SF	3.00	12,267

	Quantity	Unit	Rate	Total
D2090 Other Plumbing Systems				4,089
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	4,089.00	4,089
				80,873
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				44,346
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	200	mbth	27.50	5,500
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	4,089	SF	1.50	6,134
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	4,089	SF	8.00	32,712
D3040 Distribution Systems				92,897
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	5,111	LB	12.00	61,335
Dampers	1	LS	6,133.50	6,134
Insulation	3,833	SF	4.50	17,250
Diffusers, registers and grilles	4,089	SF	2.00	8,178
D3050 Terminal & Package Units				21,589
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	5	Ton	3,500.00	17,500
VAV boxes, terminal reheat (1/1,000 SF)	4	EA	1,000.00	4,089
D3060 Controls and Instrumentation				18,401
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	4,089	SF	4.50	18,401

	Quantity	Unit	Rate	Total
D3070 Systems Testing & Balancing				6,134
Test and balance air systems	4,089	SF	1.50	6,134
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				185,365
D40 Fire Protection				
D4010 Sprinklers				32,712
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	4,089	SF	8.00	32,712
				32,712
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				71,937
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	200	AM	65.00	13,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	15	kVA	975.00	14,625
Photovoltaic panels	6	KW	5,000.00	30,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	4,089	SF	3.50	14,312

MGAC

Feasibility Study Cost Plan — Commissary & Receiving (LACO 1263)

	Quantity	Unit	Rate	Total
D5020 Lighting & Branch Wiring				163,560
User convenience power				
Panel board breakers, 120 V circuits	4,089	SF	2.00	8,178
Receptacles, including conduit and cable	4,089	SF	5.50	22,490
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	4,089	SF	27.50	112,448
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	4,089	SF	5.00	20,445
D5030 Communications & Security				57,246
Telephone and communications				
Telephone/data - including conduit & cable	4,089	SF	6.50	26,579
WAP	4,089	SF	1.00	4,089
DAS - Emergency response & cellular	4,089	SF	4.00	16,356
Cable tray/wire-way/j-hooks	4,089	SF	1.00	4,089
Audiovisual rough-in	4,089	SF	1.50	6,134
D5090 Other Electrical Systems				34,757
Fire alarm systems	4,089	SF	4.50	18,401
Security - perimeter access control & CCTV surveillance	4,089	SF	4.00	16,356
				327,499

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				62,300
Cabinets, countertops shelving and millwork	50	LF	1,000.00	50,000
Lavatory countertop				n/a

	Quantity	Unit	Rate	Total
Window treatment, mechoshade, manual	820	SF	15.00	12,300
Entrance mat				n/a
				62,300
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				29,795
Exterior window	820	SF	5.00	4,100
Doors	6	EA	150.00	900
Built-up roofing including roof sheathing	2,045	SF	2.00	4,090
Demo hollow clay tile partitions, interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	4,089	SF	5.00	20,445
Allow for clearing/removal of storage debris	4	MH	65.00	260
F2020 Hazardous Components Abatement				30,668
Hazmat abatement - allowance	4,089	SF	7.50	30,668
				60,463

Feasibility Study Cost Plan — Commissary & Receiving (LACO 1263)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Commissary & Receiving (LACO 1263)				
Gross Site Area	*see LACO 1262*			
Building footprint	*see LACO 1262*			
Net Site Area	*see LACO 1262*			
General site clearing, demo and remove paving/landscaping				*see LACO 1262*
Site paving, site structures, fencing, landscaping & irrigation				*see LACO 1262*
Remove/replace ramp including railings	1	EA	7,500.00	7,500
Site lighting and drainage				*see LACO 1262*
Site Utilities				*see LACO 1262*
Alternate Cost Before Markups				**7,500**
Z10 Design Contingency	10.00%			750
Z11 General Requirements	4.00%			330
Z21 General Conditions	6.00%			515
Z22 Bonds & Insurance	1.50%			136
Z23 Contractor's Overhead, Profit & Fee	3.75%			346
Z30 See Overall Summary for Escalation	0.00%			
				9,577

D LACO No. 1263 (Commissary & Receiving) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Dining Room/ Kitchen #1262/1263

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Dining Room/Kitchen (LACO #1262/1263) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Dining Room/Kitchen #1262/1263 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Dining Room/Kitchen (LACO #1262/1263), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters/downspouts have deteriorated are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current season demonstrates that extremely heavy and frequent rainfall occurs. *In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction system.*

M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system*

		prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

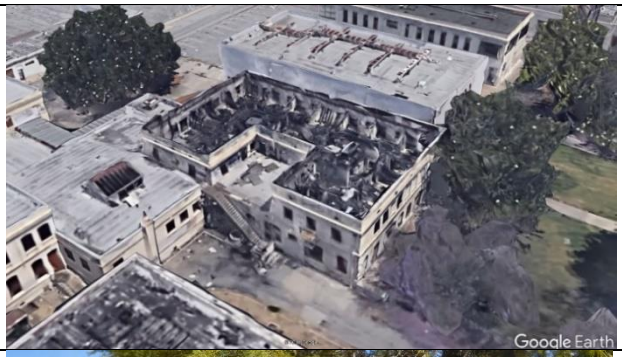
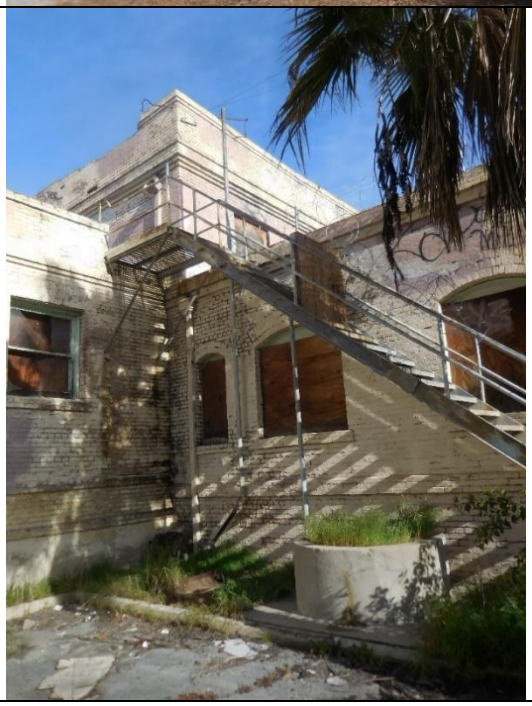
		After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins,*

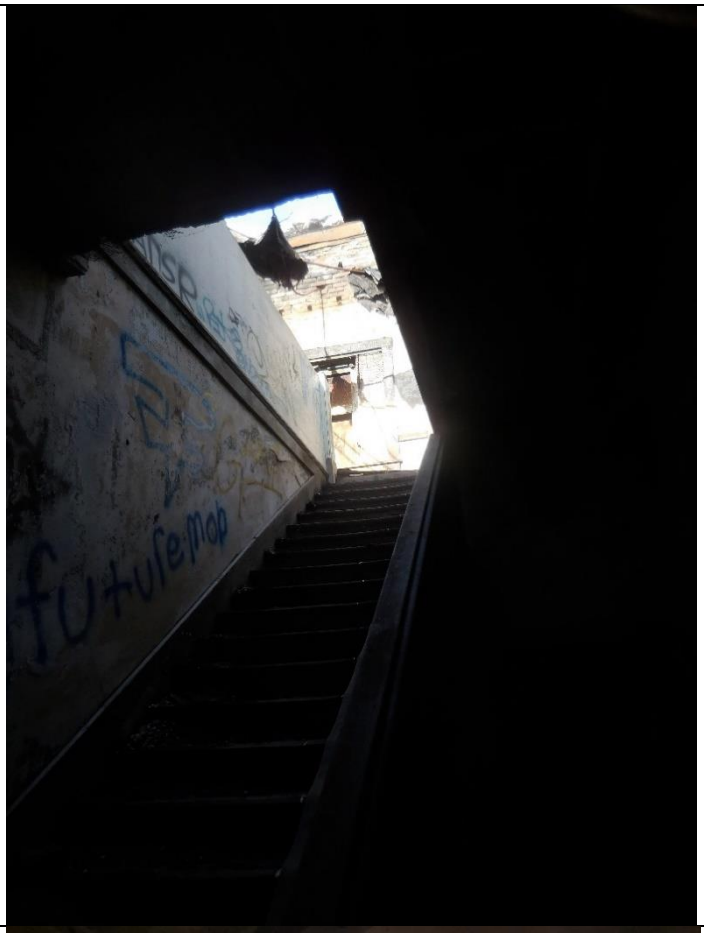
		vandalism, fire alarms, security alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department* *Install manual fire extinguishers attached*

		to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and	Yes. County staff stated that all utility services are shut off outside the buildings.

	electric lines?	Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment

		• check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	View of fire damaged area	
2	Southeast corner.	
3	South elevation with plywood at windows.	

4	Stairway to open roof at fire damaged area.	
5	Open skylight	

E LACO No. 1263 (Commissary & Receiving) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Commissary & Receiving (LACO 1263)

MGAC

Mothballing Cost Plan — Commissary & Receiving (LACO 1263)

			SF	$/SF	TOTAL $ x 1,000
B1	Commissary & Receiving (LACO 1263)		4,089	27.39	112
TOTAL BUILDING CONSTRUCTION			4,089	27.39	112
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**112**
Escalation to Midpoint (Jul 2021)		11.7%			13
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			5
	Project Management Consultant Services	2.0%			3
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			1
	Building Permit and Other Agency Fees	1.5%			2
	Owner Contingency/Construction Contingency	10.0%			14
Recommended Budget					***150***

MGAC

Mothballing Cost Plan — Commissary & Receiving (LACO 1263)

Item Description	Quantity	Unit	Rate	Total
1.) Commissary & Receiving (LACO 1263)				
No of floors	***2***	***EA***		
Gross Floor Area	***4,089***	***SF***		
Gross Wall Area	***4,300***	***SF***		
Roof Area	***2,045***	***SF***		
Windows Area	***820***	***SF***		
Gross Site Area	***2,000***	***SF***		
Building footprint	***2,045***	***SF***		
Net Site Area	***incl***	***SF***		
Stabilized structure	4,089	SF	1.50	6,134
Repaint exterior walls	4,300	SF	2.00	8,600
Protect existing openings (exterior doors)	3	EA	800.00	2,400
Install hard protection/boarding to windows	820	SF	25.00	20,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	4,300	SF	0.10	430
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	2,045	SF	15.00	30,675
Termites, ants, rodents etc - inspection and allowance for treatment	4,089	SF	0.25	1,022
Install smoke & fire detectors including wiring	4,089	SF	1.00	4,089
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	4,089	SF	0.75	3,067
Clear site of weeds and overgrown trees	incl	SF	0.50	
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**86,967**
Z10 Design Contingency	15.00%			13,045
Z11 General Requirements	3.00%			3,000
Z21 General Conditions	3.00%			3,090
Z22 Bonds & Insurance	1.50%			1,592
Z23 Contractor's Overhead, Profit & Fee	3.75%			4,039
				111,732

Feasibility Study Reports for LACO No. 1275 (Workshop)

Primary Contributor

ESA

A LACO No. 1275 (Workshop) – Architectural Assessment Report

Workshop (LACO 1275)

10,638 s.f.
Built 1917
Primary Contributor to Historic District

Building Description

The Workshop (LACO No. 1275) occupies the northwest corner of the intersection of Juniper and Bonita Streets. A long, narrow building, it extends north along the west side of Juniper Street two-thirds of the block. The one-story, brick vernacular Workshop is capped by a flat roof screened by stepped brick parapet with coping of header bricks. The building sits on a concrete slab foundation and has common brick exterior walls. Linear fenestration of original wood-framed, primarily four-over-four, double-hung windows, recessed with slightly projecting sills of header bricks and heavy, flushed, concrete lintels, line all four elevations. Metal awnings are located above the two windows on the east elevation. Each of the three storefronts on the south end of the east façade is flanked by a pair of wood-framed, four-over-four, double-hung sash windows. A shed-roofed lean is attached to the north elevation. Alterations include a flat-roofed, stucco-clad addition and a corrugated metal canopy at the north end of the west elevation and the enclosure of some openings on the east. Metal awnings have been added to the pair of windows that occupy the south elevation. The Garage (LACO No. 1277) is attached to the south end of the west elevation. The property is in fair condition.[1]

Statement of Significance

The significance of LACO No. 1275 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> This property was determined eligible for listing in the National Register of Historic Places under Criterion A as a contributor to the Rancho Los Amigos Historic District on September 30, 1996. It is therefore also listed in the California Register of Historical Resources under Criterion 1. The current study confirmed the significance of the Workshop (LACO No. 1275) as a contributor to the Historic District under Criterion A/1, association with events that have made a significant contribution to the broad patterns of local or regional history. The property is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1917 to serve as a work service building for the farm and construction programs of the County Poor Farm and functioned in this capacity until the late 20th century. The building is currently abandoned.

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[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Workshop (LACO No. 1275),* prepared for the County of Los Angeles June 2, 2008.

Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. It retains integrity of location, setting, design, materials, workmanship, feeling, and association. The building has retained most of its character-defining features, including: flat roof screened by stepped parapet with coping of header bricks; brick exterior walls; corbelled brick cornice which separates the parapet from the wall plate; repetitive "storefront" composition of central entries flanked by paired windows in south three bays of east elevation; double-hung windows recessed with slightly projecting sills of header bricks and heavy, flush concrete lintels; and original wood-paneled and glazed doors with transoms.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** Building has a built-up roof. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters – are in need of repair or replacement.	• **10,638 s.f.**

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Workshop (LACO No. 1275),* prepared for the County of Los Angeles June 2, 2008.

• **Exterior walls –** Masonry walls have deteriorated; joints will need to be restored.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **10- 3'x7' wood doors** • **5 pair 6'x7' wood doors**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **47 wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **10,638. s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **10,638 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	

• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

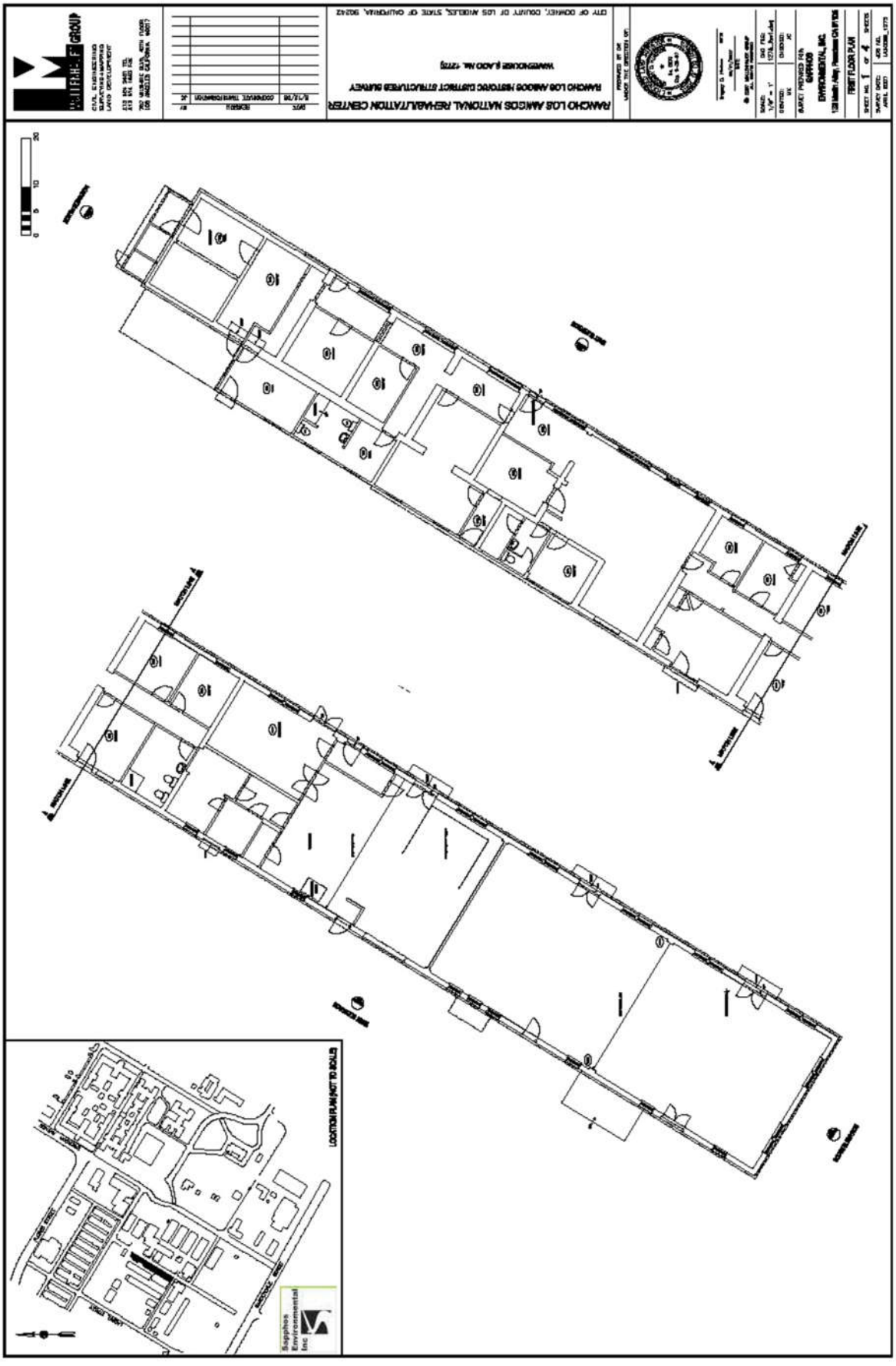
Exterior

• **Roofing** – Replace entire built-up roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **10 638 s.f.**
• **Exterior walls –** Remove paint on interior and exterior, epoxy all cracks and voids, repoint masonry grout per Secretary of Interior Standards Preservation Brief #1. Seal masonry after cleaning and repair. Remove paint on interior and exterior, epoxy all cracks and voids, repoint masonry grout per Secretary of Interior Standards Preservation Brief #1. Seal masonry after cleaning and repair.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **10- 3'x7' wood doors** • **5 pair 6'x7' wood doors** • **Replace in kind**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **47 wood windows** • **Assume 20% replace in kind**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **8,000 s.f. courtyard.**

Interior Spaces

It is assumed that this 10,638 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with concrete flooring.	• **10,638 s.f.** • **Assume 25% replacement**
• **Walls –** Remove paint from masonry walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **10,638 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **200 l.f.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 20-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space	• **2 restrooms – 6 total fixtures- 4 sinks.**
• **Electrical** – Provide new 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout.	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
FIRST FLOOR PLAN
LOCATION PLAN (NOT TO SCALE)
Sapphos Environmental Inc

Southeast Corner

East Facade

1. Clean and repair masonry.
2. Remove plywood – provide new door assembly.
3. Remove plywood, repair or replace windows “in-kind”.
4. Remove debris.
5. Provide new landscape.

Interior Workshop

West Elevation

1. Clean and repair masonry.
2. Remove plywood – provide new door assembly.
3. Remove plywood, repair or replace windows “in-kind”.
4. Remove debris.
5. Provide new landscape.

B LACO No. 1275 (Workshop) – Structural Assessment Report

Structural Assessment: Workshop
(LACO NO. 1275)

Summary of Assessment

The Workshop (LACO No. 1275) is a long, rectangular 10,638 square foot building with unreinforced masonry walls and a wood framed roof. The footprint of the building is approximately 33 feet x 324 feet with its length running north to south. The building appears to be in poor condition. Signs of deterioration and water damage were seen throughout the structure, as well as evidence that the structural elements may not have sufficient strength to resist both gravity and lateral forces. The expected seismic performance of this building in its current condition is poor. The building does not have significant lateral force resisting capacity. Additionally, the structural components are not properly connected to resist a moderate earthquake. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Workshop (LACO No. 1275) is a long, rectangular building consisting of a wood roof system supported by unreinforced brick masonry walls. All of the major exterior walls and some of the interior walls are constructed of unreinforced brick masonry. Some of the interior walls are metal stud walls, an indication that they were added years after the original construction. It is expected that some interior walls may be constructed of hollow clay tiles. The east and west exterior walls have windows every few feet along the entire length of wall (Figure 1).The flat roof consists of straight sheathing over wood framing, typically rafters spanning east to west between the exterior brick walls as shown in Figure 2[1]. The rafters appear to be 3x rafters spaced 16 inches to 24 inches on center. A steel beam was observed in one portion of the building and is shown in Figure 3. However, based on common construction practice at the time LACO No. 1275 was built, it is expected that this beam was added for strengthening and is not part of the original framing.

Condition Assessment

The Workshop is in poor condition. In many locations along the exterior walls, the brick masonry has deteriorated due to weather, and the mortar between the bricks is eroding (Figure 4). There are no additional wall anchors at the embedded roof rafters to help transfer lateral forces between the roof framing and the walls (Figure 5). The straight board sheathing diaphragm displays signs of dry rot, water damage, and other deterioration as seen in Figure 6 and Figure 7. It is likely not strong enough to transfer the lateral forces experienced in the event of a moderate earthquake. Additionally, the diaphragm does not appear to be properly tied to the walls and roof framing. The roof sheathing should be removed and replaced with plywood sheathing. Throughout the building, ceiling tiles have unglued and fallen from the ceiling (Figure 8). Not only does this present a potential safety hazard, but it is also a sign of possible water damage throughout the roof and ceiling.

It is expected that some of the interior walls are constructed of hollow clay tile. Hollow clay tile (HCT) walls are extremely brittle and generally not suitable for shear or bearing walls. Additionally, HCT walls are known to be a high-risk potential falling hazard; the walls are likely to collapse, break into many pieces, and obstruct egress. It is highly recommended that all hollow clay tile walls be removed and replaced.

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

A Garage Building (LACO No. 1277) is attached at the west side of the Workshop. This could present a potential risk of damage during a seismic event. However, LACO No. 1277 is expected to be demolished, eliminating the need to repair the buildings' connections or create a seismic joint.

Evaluation of Structural Performance

Unreinforced brick masonry structures tend to perform very poorly during moderate earthquakes. This is because of their heavy construction and lack of reinforcement. In fact, this building type is no longer allowed in new construction due to its historically poor earthquake performance. Though the building performed well in previous regional earthquakes, the walls still present a significant potential falling hazard and are not likely to perform well in a closer or more severe earthquake. The age of this building and its lack of significant lateral design are associated with a possible risk of partial or total collapse in the event of a moderate earthquake.

The roof type used on this building is capable of resisting lateral forces, but its strength may not be sufficient. Further analysis would be needed to determine the required strength of the diaphragm. The connection of the roof to the walls, as well as the ties and collectors, are likely not sufficient to transfer forces across the building. As mentioned above, the straight sheathing diaphragm is likely not strong enough to transfer the lateral forces and should be replaced by a new plywood diaphragm. Additionally, the roof supports should be further investigated to determine what additional dead and live loads, if any, are allowable for the existing structure.

This building does not contain significant interiors. The addition of interiors will increase the total building weight and will require strengthening or additional supports to resist the associated higher forces. The long span roof rafters may not be able to support any additional loads whether installed at the roof or applied to the total building weight by the addition of interiors This building may not have sufficient foundations or anchorage to the foundations. Strengthening, or new footings, should be provided at the foundations, including the addition of proper connections between the walls and foundation.

Summary of Proposed Upgrades

The expected seismic performance of this building in its current condition is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced masonry walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the existing wall to the shotcrete.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be visually obstructed by a network of steel tube framing.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient for providing protection of character-defining features and increasing performance and strength compared to the other methods.
- Anchor all walls to the foundations.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with

reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other possible risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in case of damage or collapse.

Diaphragm

- Replace existing roofing with plywood diaphragm.
- Install new steel anchors between walls and diaphragm. Anchors would be installed around the entire perimeter of the building. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Replace deteriorated and insufficient wood members.

General Condition

- Repair and/or replace all deteriorated masonry. Patch and grout any areas where spalling and cracking has occurred.
- Repair the eroded mortar. It is expected that 15% to 50% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building may need to be repointed.
- Disconnect the attached Garage (LACO No. 1277) from LACO No. 1275. The Garage is expected to be demolished.
- Upgrade foundations throughout the building. Strengthening, or new footings, will likely be required around the entire building perimeter and at some or all interior walls. This may involve shoring and excavating localized areas to install concrete footings.
- Repair or replace all damaged or deteriorated roof framing members.
- Where roof rafters show signs of excessive deflection, complete a full analysis of the framing and add secondary support as needed.
- Replace ceiling with new ceiling properly secured to the structure.

Figure 1: West elevation showing typical exterior condition

Figure 2: Long span wood rafters

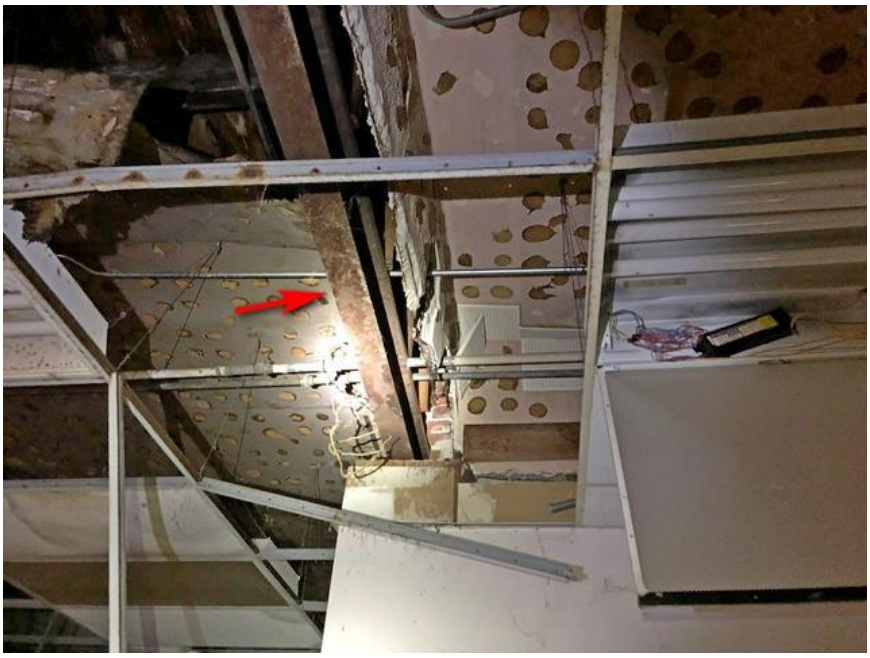


Figure 3: Steel wide flange framing member

Figure 4: Deterioration of mortar at brick masonry walls

Figure 5: Connection of roof framing to exterior masonry wall

Figure 6: Damaged wood sheathing

Figure 7: Rotting & broken wood sheathing

Figure 8: Fallen ceiling tiles

C LACO No. 1275 (Workshop) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Workshop (LACO 1275)

MGAC

Feasibility Study Cost Plan — Workshop (LACO 1275)

			SF	$/SF	TOTAL $ x 1,000
B1	Workshop (LACO 1275)		10,638	480.54	5,112
SUB-TOTAL BUILDING CONSTRUCTION			10,638	480.54	5,112
S1	Sitework		8,000	84.88	679
	Premium for enhanced sustainable site features				87
SUB-TOTAL SITEWORK					766
TOTAL BUILDING AND SITEWORK					**5,878**
Escalation to Midpoint (Jul 2021)		11.7%			686
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			525
	Project Management Consultant Services	3.0%			213
	FF & E	5.8%			424
	Taxes and Indirect Fees	1.0%			77
	Building Permit and Other Agency Fees	1.5%			117
	Owner Contingency/Construction Contingency	25.0%			1,980
Recommended Budget					***9,900***

Feasibility Study Cost Plan — Workshop (LACO 1275) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	10,638		
TOTAL GROSS FLOOR AREA	**10,638**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.000
Gross Area		10,638	SF	1.000
Enclosed Area		10,638	SF	1.000
Covered Area		0	SF	-
Footprint Area		10,638	SF	1.000
Gross Wall Area		7,320	SF	0.688
Finished Wall Area		7,320	SF	0.688
Windows or Glazing	19%	1,400	SF	0.132
Roof Area - Flat		10,638	SF	1.000
Roof Area - Total		10,638	SF	1.000
Roof Glazing Area		0	SF	-
Interior Partitions		400	LF	0.038
Finished Area		10,638	SF	1.000

MGAC

Feasibility Study Cost Plan — Workshop (LACO 1275) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	10,638 SF	
A10	Foundations		4%	17.00	181
A20	Basement Construction		0%	0.00	0
A	Substructure		4%	17.00	181
B10	Superstructure		10%	47.52	506
B20	Exterior Enclosure		6%	27.29	290
B30	Roofing		5%	24.50	261
B	Shell		21%	99.31	1,056
C10	Interior Construction		3%	13.96	149
C20	Stairways		0%	0.00	0
C30	Interior Finishes		11%	50.60	538
C	Interiors		13%	64.57	687
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		5%	22.98	244
D30	Heating, Ventilation & Air Cond.		10%	47.44	505
D40	Fire Protection		2%	8.00	85
D50	Elect'l Lighting, Power & Comm.		18%	84.81	902
D	Services		34%	163.24	1,737
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	17.99	191
E	Equipment & Furnishings		4%	17.99	191
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	14.20	151
F	Special Construction & Demolition		3%	14.20	151
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	376.30	4,003
Z10	Design Contingency	10.00%	8%	37.63	400
Z11	General Requirements	4.00%	3%	16.56	176
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	430.49	4,580
Z21	General Conditions	6.00%	5%	25.83	275
Z22	Bonds & Insurance	1.50%	1%	6.84	73
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	17.37	185
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	480.54	5,112
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	480.54	5,112

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				53,190
Foundation upgrade	10,638	SF	5.00	53,190
A1030 Slab On Grade				127,656
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	4,255	SF	30.00	127,656
				180,846
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				292,800
Allow shotcrete to interior face of exterior walls	7,320	SF	40.00	292,800
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				212,760
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	10,638	SF	20.00	212,760
				505,560
B20 Exterior Enclosure				
B2010 Exterior Walls				89,670
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	7,320	SF	8.00	58,560

	Quantity	Unit	Rate	Total
Loose fill insulation				*n/a*
Painting to exterior walls	7,320	SF	3.00	21,960
Painting to interior face of exterior walls (shotcrete area)	7,320	SF	1.25	9,150
B2020 Exterior Windows				145,600
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	1,120	SF	100.00	112,000
New windows similar kind, high performance glazing; allow 25%	280	SF	120.00	33,600
B2030 Exterior Doors				55,000
Solid core wood doors including frames and hardware				
Single leaf	10	EA	3,000.00	30,000
Double leaf	5	EA	5,000.00	25,000
				290,270
B30 Roofing				
B3010 Roof Coverings				260,631
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	10,638	SF	24.50	260,631
				260,631
C10 Interior Construction				
C1010 Partitions				36,000
Patch/repair existing partitions, 20%	1,200	SF	30.00	36,000
C1020 Interior Doors				46,000
New wood doors including frames and hardware (1/500SF)	20	EA	2,300.00	46,000

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Feasibility Study Cost Plan — Workshop (LACO 1275)

	Quantity	Unit	Rate	Total
C1030 Fittings				66,552
Toilet partitions and accessories	12	EA	2,000.00	24,000
Code required signages, fire extinguisher cabinets, etc	10,638	SF	4.00	42,552
				148,552

C20 Stairways

				0

C30 Interior Finishes

C3010 Wall Finishes				91,520
Repair damaged wall plaster and repaint - interior partitions	8,000	SF	10.00	80,000
Ceramic wall tiles to toilets	640	SF	18.00	11,520
C3020 Floor Finishes				74,466
New floor finishes including base	10,638	SF	7.00	74,466
Existing flooring to remain, allow for cleaning				*n/a*
C3030 Ceiling Finishes				372,330
New gypsum plaster ceiling on wood lathe	10,638	SF	35.00	372,330
				538,316

D10 Conveying Systems

				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				40,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	20	EA	2,000.00	40,000
D2020 Domestic Water Distribution				70,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	20	EA	3,000.00	60,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				91,914
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	10,638	SF	2.00	21,276
Condensate drainage pipework, fittings, < = 1-1/2", insulated	10,638	SF	1.00	10,638
Waste, vent, fittings, < = 6"	20	EA	3,000.00	60,000
D2040 Rain Water Drainage				31,914
Surface water drainage				
Roof & overflow drains, < = 6"	10,638	SF	3.00	31,914
D2090 Other Plumbing Systems				10,638
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	10,638.00	10,638
				244,466

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				114,811
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	500	mbth	27.50	13,750
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	10,638	SF	1.50	15,957
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	10,638	SF	8.00	85,104
D3040 Distribution Systems				241,682
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	13,298	LB	12.00	159,570
Dampers	1	LS	15,957.00	15,957
Insulation	9,973	SF	4.50	44,879
Diffusers, registers and grilles	10,638	SF	2.00	21,276
D3050 Terminal & Package Units				80,638
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	20	Ton	3,500.00	70,000
VAV boxes, terminal reheat (1/1,000 SF)	11	EA	1,000.00	10,638
D3060 Controls and Instrumentation				47,871
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	10,638	SF	4.50	47,871
D3070 Systems Testing & Balancing				15,957
Test and balance air systems	10,638	SF	1.50	15,957
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				504,709

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				85,104
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	10,638	SF	8.00	85,104
				85,104
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				237,358
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels	15	KW	5,000.00	75,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	10,638	SF	3.50	37,233
D5020 Lighting & Branch Wiring				425,520
User convenience power				
Panel board breakers, 120 V circuits	10,638	SF	2.00	21,276
Receptacles, including conduit and cable	10,638	SF	5.50	58,509
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	10,638	SF	27.50	292,545

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	10,638	SF	5.00	53,190
D5030 Communications & Security				148,932
Telephone and communications				
Telephone/data - including conduit & cable	10,638	SF	6.50	69,147
WAP	10,638	SF	1.00	10,638
DAS - Emergency response & cellular	10,638	SF	4.00	42,552
Cable tray/wire-way/j-hooks	10,638	SF	1.00	10,638
Audiovisual rough-in	10,638	SF	1.50	15,957
D5090 Other Electrical Systems				90,423
Fire alarm systems	10,638	SF	4.50	47,871
Security - perimeter access control & CCTV surveillance	10,638	SF	4.00	42,552
				902,233
E10 Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				191,400
Cabinets, countertops shelving and millwork	200	LF	800.00	160,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	1,400	SF	15.00	21,000
Entrance mat	1	LS	5,000.00	5,000
				191,400
F10 Special Construction				
				0

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Feasibility Study Cost Plan — Workshop (LACO 1275)

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				71,258
Exterior windows	280	SF	5.00	1,400
Doors	35	EA	150.00	5,250
Built-up roofing including roof sheathing	10,638	SF	2.00	21,276
Demo hollow clay tile partitions, interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	10,638	SF	4.00	42,552
Allow for clearing/removal of storage debris	12	MH	65.00	780
F2020 Hazardous Components Abatement				79,785
Hazmat abatement - allowance	10,638	SF	7.50	79,785
				151,043

Feasibility Study Cost Plan — Workshop (LACO 1275)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Workshop (LACO 1275)				
Gross Site Area	18,600	SF		
Building footprint	10,638	SF		
Net Site Area	8,000	SF		
General site clearing, demo and remove paving/landscaping	8,000	SF	4.00	32,000
Site paving, site structures, fencing, landscaping & irrigation	8,000	SF	25.00	200,000
Premium for permeable paving	4,000	SF	13.00	52,000
Remove/replace ramp including railings				*n/a*
Site lighting and drainage	8,000	SF	6.00	48,000
Site Utilities	8,000	SF	25.00	200,000
Alternate Cost Before Markups				**532,000**
Z10 Design Contingency	10.00%			53,200
Z11 General Requirements	4.00%			23,408
Z21 General Conditions	6.00%			36,516
Z22 Bonds & Insurance	1.50%			9,677
Z23 Contractor's Overhead, Profit & Fee	3.75%			24,555
Z30 See Overall Summary for Escalation	0.00%			
				679,356

D LACO No. 1275 (Workshop) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Workshop #1275

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Workshop (LACO #1275) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Workshop #1275 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes. However,

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Workshop (LACO #1275), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is the building's stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular building standards or alternative standards

		under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is severely deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project, light gauge prefinished aluminum components are an acceptable alternative to a more durable construction system. Provide rain leader*

		extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior masonry has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly, the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, although in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects to the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals of small animals and pests prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed, as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present, to make recommendations for abatement, and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

		After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and other documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins,*

		vandalism, fire alarms, security alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally and shall report a signal to a central station that automatically notifies the fire department.* *Install manual fire extinguishers attached to*

		the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and	Yes. County staff stated that all utility services are shut off outside the buildings.

	electric lines?	Electrical will have to be re-activated for smoke and fire detectors. *No action required.*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds

		• check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Southeast corner.	
2	South elevation of noncontributing addition	
3	East elevation with plywood at windows.	

4	Interior condition	
5	East elevation and site.	

E LACO No. 1275 (Workshop) – Mothballing Cost Plan

MGAC

Workshop (LACO 1275)

MGAC

Mothballing Cost Plan — Workshop (LACO 1275)

			SF	$/SF	TOTAL $ x 1,000
B1	Workshop (LACO 1275)		10,638	33.09	352
TOTAL BUILDING CONSTRUCTION			10,638	33.09	352
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**352**
Escalation to Midpoint (Jul 2021)		11.7%			41
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			16
	Project Management Consultant Services	2.0%			8
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			4
	Building Permit and Other Agency Fees	1.5%			6
	Owner Contingency/Construction Contingency	10.0%			43
Recommended Budget					***470***

MGAC

Mothballing Cost Plan — Workshop (LACO 1275)

Item Description	Quantity	Unit	Rate	Total
1.) Workshop (LACO 1275)				
No of floors	***1***	***EA***		
Gross Floor Area	***10,638***	***SF***		
Gross Wall Area	***7,320***	***SF***		
Roof Area	***10,638***	***SF***		
Windows Area	***1,400***	***SF***		
Gross Site Area	***18,600***	***SF***		
Building footprint	***10,638***	***SF***		
Net Site Area	***8,000***	***SF***		
Stabilized structure	10,638	SF	1.50	15,957
Repaint exterior walls	7,320	SF	2.00	14,640
Protect existing openings (exterior doors)	15	EA	800.00	12,000
Install hard protection/boarding to windows	1,400	SF	25.00	35,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	7,320	SF	0.10	732
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	10,638	SF	15.00	159,570
Termites, ants, rodents etc - inspection and allowance for treatment	10,638	SF	0.25	2,660
Install smoke & fire detectors including wiring	10,638	SF	1.00	10,638
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	4	EA	275.00	1,100
Remove debris and broom clean	10,638	SF	0.75	7,979
Clear site of weeds and overgrown trees	8,000	SF	0.50	4,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**273,775**
Z10 Design Contingency	15.00%			41,066
Z11 General Requirements	3.00%			9,445
Z21 General Conditions	3.00%			9,729
Z22 Bonds & Insurance	1.50%			5,010
Z23 Contractor's Overhead, Profit & Fee	3.75%			12,713
				351,739

Feasibility Study Reports for LACO No. 1121 (Staff Cottage)

Secondary Contributor

ESA

A LACO No. 1121 (Staff Cottage) – Architectural Assessment Report

Staff Cottage (LACO 1121)

1,789 s.f.

Building Description

One of two nearly identical buildings, the Staff Cottage is located on the northeast corner of Hawthorn Avenue and Flores Street. The staff cottage is a one-story building, asymmetrical in appearance, and rectangular in plan. Although displaying some influence of the Craftsman bungalow style, the building is vernacular in design. The wood-framed building is capped by a low-pitched, cross gabled roof with rafters, and knee braces exposed in the overhanging eaves. Rolled asphalt and composition shingles cover the roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. The building sits on a concrete slab foundation and is clad in horizontal lapped wood siding. Fenestration on all elevations consists of a primarily linear arrangement of variously sized wood-framed, one-over-one, double-hung sash windows, whose plain wood casings are characterized by slightly extended lintels. The primary entrance (east façade) is offset slightly to the north in the slightly raised center bay and is sheltered by a shed roof that projects from the front gabled end. False beams support the shed roof. Plain wood trim with extended lintels frame the entry, whose original door has been replaced by a non-original metal door. Three additional entries on the east façade, two to the south of the gabled projection and one to the north, are similarly framed and have been enclosed in plywood. A non-original, sloped concrete ramp with iron pipe railings provides access to the main entrance. Each of the four entries is flanked to each side by single windows. A secondary entrance, accessed by four steps, is located on the rear elevation.[1]

Statement of Significance

The significance of LACO No. 1121 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> Staff Cottage (LACO No. 1121) was constructed in 1921 as living quarters for staff of the County Poor Farm who worked in the patient ward buildings. ESA evaluated LACO No. 1121 under the following historical theme: Development of the Los Angeles County Poor Farm and Rancho Los Amigos (1888-1952). Based upon its date of construction and building type, LACO No. 1121 appears significant for its association with the Development of Rancho Los Amigos (1907-1932) era. LACO No. 1121 retains sufficient integrity to convey its original use as staff cottages. Though degraded, it is still intact and, in its present condition, retains integrity of location, feeling, and association. It does not retain integrity of setting due to the removal of the additional rows of staff cottages to the northeast sometime in the 1980s when the County rezoned former Rancho Los Amigos land and sold

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Staff Cottage (LACO No. 1121),* prepared for the County of Los Angeles June 2, 2008.

it for commercial development. It also does retain integrity of design, materials, and workmanship due to the alterations and deterioration it has sustained, as recorded by Sapphos in 2007-2011 and ESA in 2017. LACO No. 1121 retains sufficient integrity, however, to convey its historical associations with the transition of the property from a poor farm to long-term care facility. Therefore, ESA recommends that the eligibility of LACO No. 1121 remain unchanged and that it continues to be considered a contributor to the District. ESA recommends that LACO No. 1121 retain its existing NRHP status code of 2D2, noting it as a contributor to the District.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters – are in need of repair or replacement.	• **1,800 s.f.**
• **Exterior walls –** Exterior wood siding is damaged in minimal amount of areas. It is repairable in most areas.	

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, Staff Cottage (LACO No. 1121),* prepared for the County of Los Angeles January 8, 2018.

• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **18 wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **1,789 s.f.**
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Original covered screen porch has been enclosed; however, some walls are vandalized and damaged.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **1,789 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were	

observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

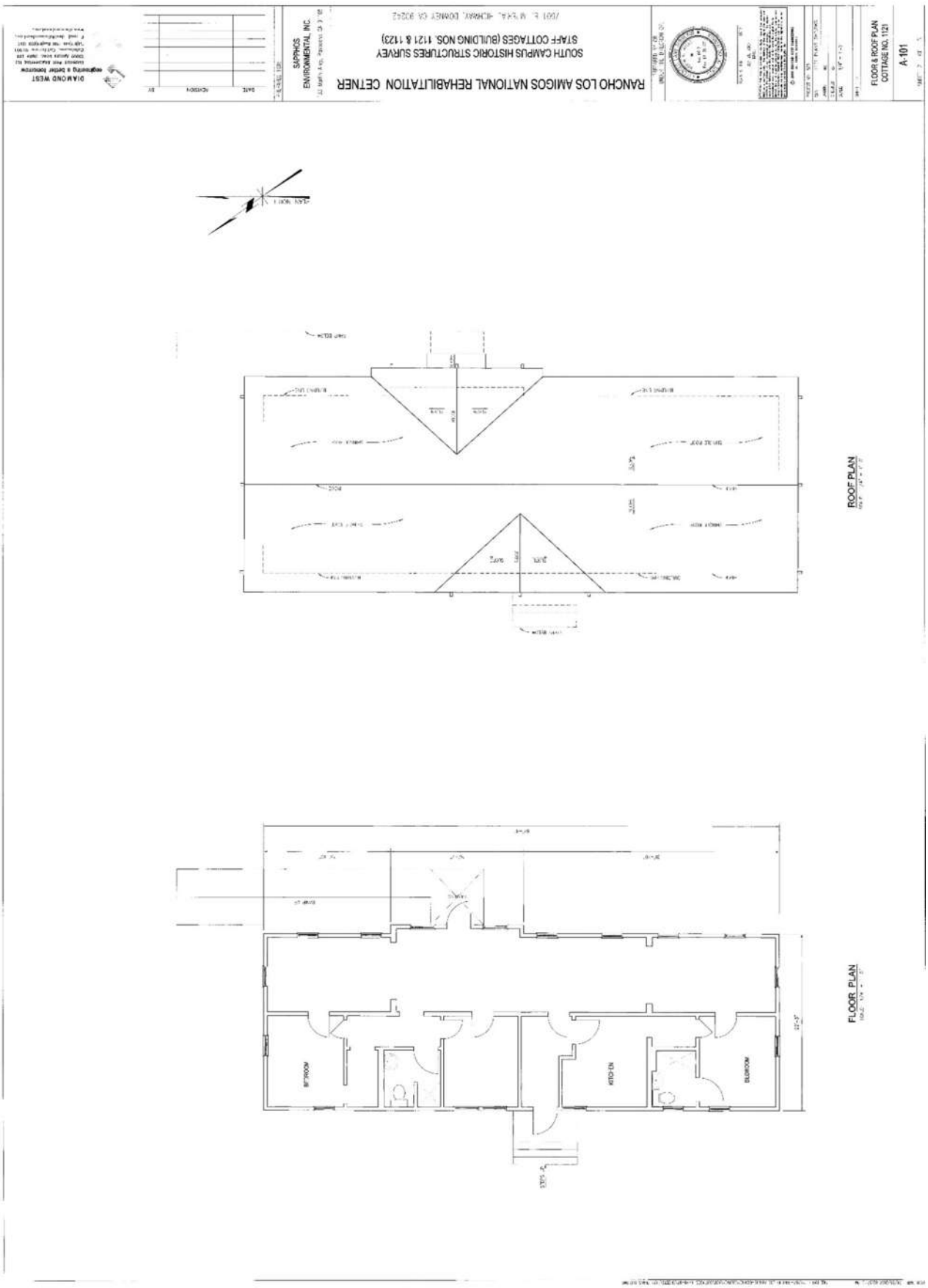
Character Defining features	
• **Roofing**-Replace entire composition shingle roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **1,800 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **2 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **18 -3'x5'wood windows**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building, provide perimeter exterior landscaping to be landscape and irrigation.	• **2,000 s.f. courtyard.**

Interior Spaces

It is assumed that this 1,789 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it

is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **1,789 s.f.**
• **Walls –** Remove paint and strip siding and replace in-kind per the Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **1,789 s.f.**
• **Millwork** – Provide new millwork for office spaces.	
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **1 restroom with 2 fixtures and one sink.**
• **Electrical** – Provide new 200 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	

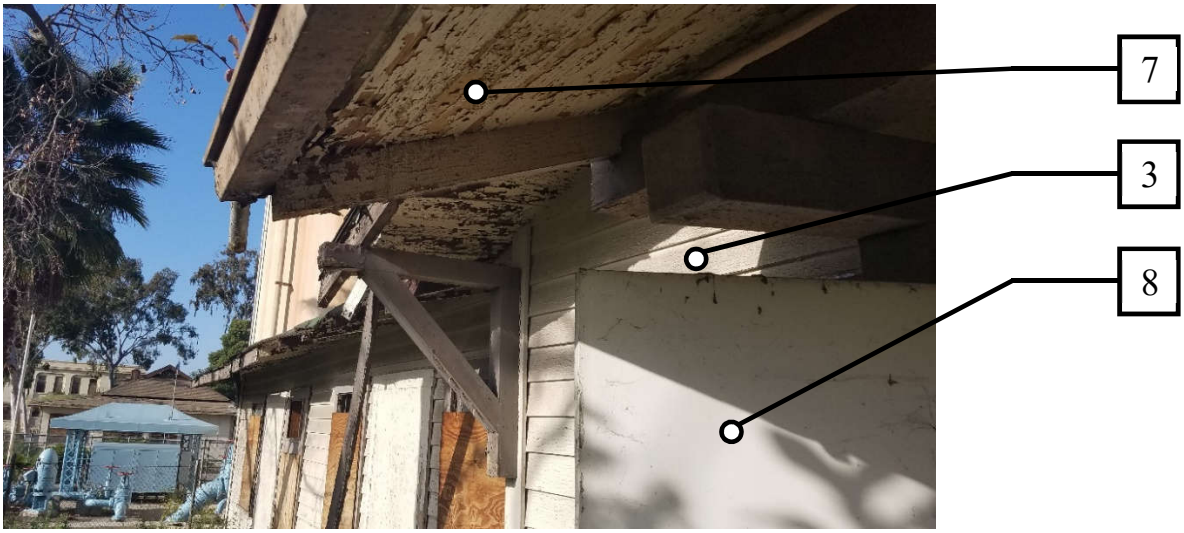

RANCHO LOS AMIGOS NATIONAL REHABILITATION CETNER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
STAFF COTTAGES (BUILDING NOS. 1121 & 1123)
SAPPHOS ENVIRONMENTAL, INC.
DIAMOND WEST
FLOOR & ROOF PLAN
COTTAGE NO. 1121
A-101
ROOF PLAN
FLOOR PLAN
BR'ROOM
KITCH EN
BLDROOM

RANCHO LOS AMIGOS NATIONAL REHABILITATION CETNER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
STAFF COTTAGES (BUILDING NOS. 1121 & 1123)
SAPPHOS ENVIRONMENTAL, INC.
ELEVATIONS
COTTAGE NO.1121
A-201
SOUTH ELEVATION
NORTH ELEVATION
EAST ELEVATION
WEST ELEVATION

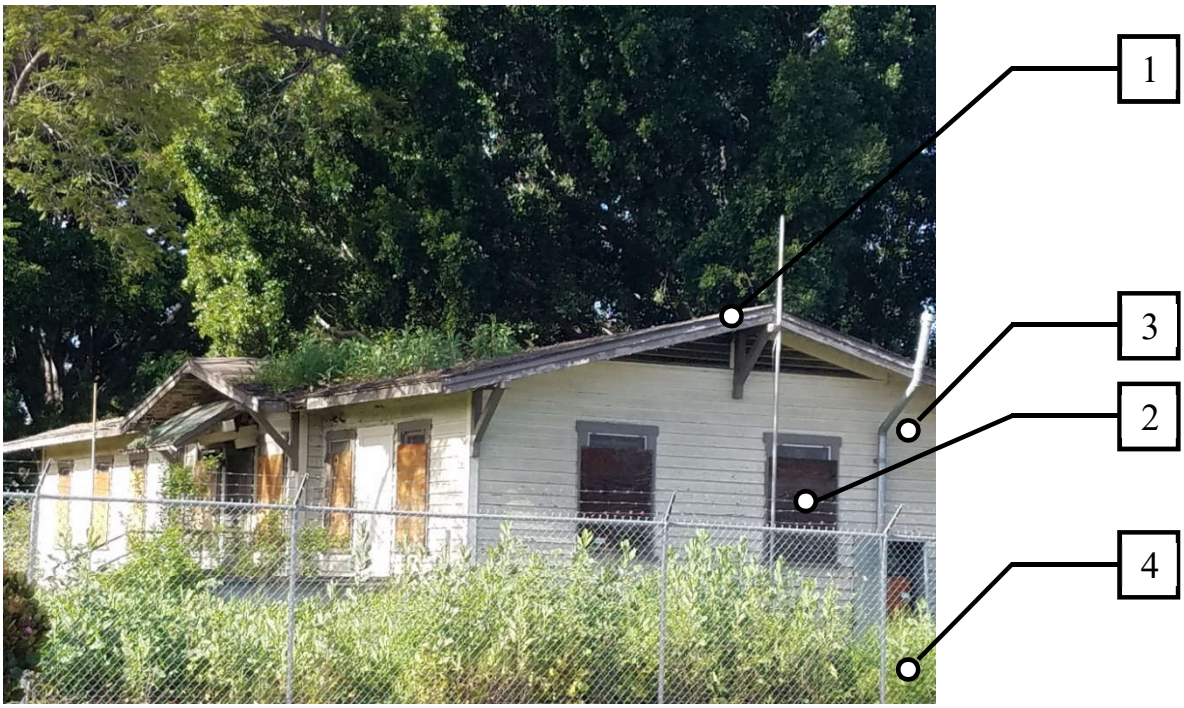
East Elevation

Interior

1. Provide new composition roof.
2. Remove plywood repair wood windows.
3. Repair and repaint wood siding.
4. Remove and replace landscaping.
5. Repair and repaint interior walls.
6. Remove all interior debris.
7. Remove and replace “in-kind” tongue and groove eaves.
8. Replace door “in-kind”.



Overhang Condition



Northeast Elevation

1. Provide new composition roof.
2. Remove plywood repair wood windows.
3. Repair and repaint wood siding.
4. Remove and replace landscaping.
5. Repair and replace landscaping.
6. Repair and repaint interior walls.
7. Remove all interior debris.
8. Remove and replace “in-kind” tongue and groove eaves.
9. Replace door “in-kind”.

B LACO No. 1121 (Staff Cottage) – Structural Assessment Report

Structural Assessment: Staff Cottage
(LACO NO. 1121)

Summary of Assessment

The Staff Cottages, LACO Nos. 1121 and 1123, are two identically sized buildings constructed in the 1920s. The buildings are the same not only in size but also in construction type, location on the property, and current condition. Only LACO No. 1121 was accessed for observation, but the findings and recommendations in this report are expected to apply equally to both buildings. The building is typical wood construction on concrete footings with a pitched roof consisting of wood sheathing over wood framing. The building is rectangular with its long direction running north to south and comprises an area of approximately 1,789 square feet.

The Staff Cottage (LACO No. 1121) is in fair to poor condition. Deterioration and damage were observed throughout the structure. Additionally, the building does not appear to have an adequate lateral force resisting system. Strengthening and new connections will be needed throughout the building. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Staff Cottage building is situated such that its long direction runs north to south. The footprint of the building is about 22 feet x 64 feet with a story height of about 12 feet. A shingle roof overlays ½-inch thick straight board sheathing over 2 x 4 rafters spaced at 24 inches and 32 inches on center. The roof framing is supported by the exterior building walls, and may derive some support from bearing walls and/or posts (within the walls) at the building interior. The exterior walls have 6-inch wood horizontal siding installed over 2 x 4 wood studs. The interior walls are framed with 2-inch wood studs. These walls are finished with plaster over wood lath, which is no longer common practice for wood construction. The floor also consists of wood framing and is elevated approximately 30 inches above the ground by a perimeter cripple wall. The perimeter cripple wall is supported by a continuous concrete footing, while the raised floor is supported by sub-grade wood posts on individual concrete piers.

Condition Assessment

The general condition of the building at its exterior appears fair to poor. There is evidence of deterioration at the roof framing members that have been exposed to the elements (Figure 1 and Figure 2). This deterioration (likely dry rot and/or water damage) may extend to framing that was not exposed and visible. There are no signs of major structural distress or building settlement, and the roof framing that was observed from the inside of the building appeared to be in decent condition (Figure 3). However, ceiling and wall coverings are severely damaged. Figure 4 shows an area where the plaster ceiling has fallen, and the wood lath is both broken and stained from prolonged moisture. The plaster ceilings should be replaced since they present a possible falling hazard and safety risk. Similar damage to the wood lath and plaster wall can be seen in Figure 5. In some areas, the floor was wet and showed evidence of ponding or flooding as shown in Figure 6. This is an indication that there could be water damage to the floor framing as well.

Due to standard practice at the time of construction, this building is expected to have very limited lateral capacity. The building's perseverance through pervious nearby earthquakes is primarily due to its lightweight construction. The interior walls, covered by wood lath and plaster, help in resisting lateral forces but do not provide the same level of resistance used in current building design. The wood siding at the exterior walls does not provide lateral support and serves as a wall covering only. Based on the time of construction and observations of other buildings at the site, it is assumed that this building lacks proper connections between the roof diaphragm and the walls. Additionally, there is no apparent anchorage of the interior walls or cripple walls to the foundation. The concrete piers supporting the interior

floor were observed during a previous analysis in 2006 and are shown in Figure 7[1]. These appeared to be in good condition at the time, however, they are not properly attached to the building and their condition may have deteriorated over time.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. These buildings' lightweight construction significantly reduces the forces and stresses induced on a building during an earthquake. This is likely the reason why the Staff Cottage building appears to have performed decently in past seismic events.

However, in the event of a moderate earthquake predicted by current code standards, the building would be expected to perform below a Life Safety Performance Level. The existing roof and wall construction are expected to withstand very little lateral force. In addition, the cripple walls below the floor would be subjected to a high amount of movement and shear stress. Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

Summary of Proposed Upgrades

The expected seismic performance of the building in its current condition is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

- Add new plywood sheathing or steel shear panels to all exterior walls and interior walls. Reinstall wall coverings over the top of new plywood, if necessary, to preserve the character-defining features of the building.
- It may be necessary to add new interior shear walls across the building. All new shear walls would require new continuous footings with stem walls or cripple walls. Installing plywood over the entire floor area to transfer interior wall shears to the perimeter cripple walls might be an alternative to adding new footings beneath the interior shear walls. With this approach, the posts and piers beneath the end posts of the shear walls would need to be strengthened to support overturning forces.
- Add holdowns at the end posts of all shear walls. This includes all new walls and all existing walls where plywood or shear panels were added.
- Strengthen and stiffen the perimeter cripple wall for shear stresses by adding plywood on one or both sides.
- Add anchor bolts along the length of the cripple wall to provide a proper connection between the cripple wall and the foundation. Add holdowns as needed to adequately transfer shear forces from the cripple wall to the foundation.
- Strengthen the perimeter concrete footing as needed to support the exterior walls and the shear forces transferred by the cripple walls.
- Attach subgrade posts to their supporting concrete piers with holdowns or similar hardware. Strengthen the posts and/or piers if needed.

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.

[1] *This photograph (figure) was taken in 2006 during a previous structural assessment of the same property by Coffman Engineers.*

- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Install anchors as needed between roof framing and the walls to adequately transfer roof forces to the walls.
- Install steel connectors as needed to create a positive connection between the roof beams and girders to their supports.

General Condition

- Replace deteriorated wood members in floor, roof, and walls as needed.
- Remove and replace plaster ceilings.
- Upgrade foundations throughout the building.

Figure 1: Deteriorated roof framing

Figure 2: Moisture damage and dry rot at exposed framing

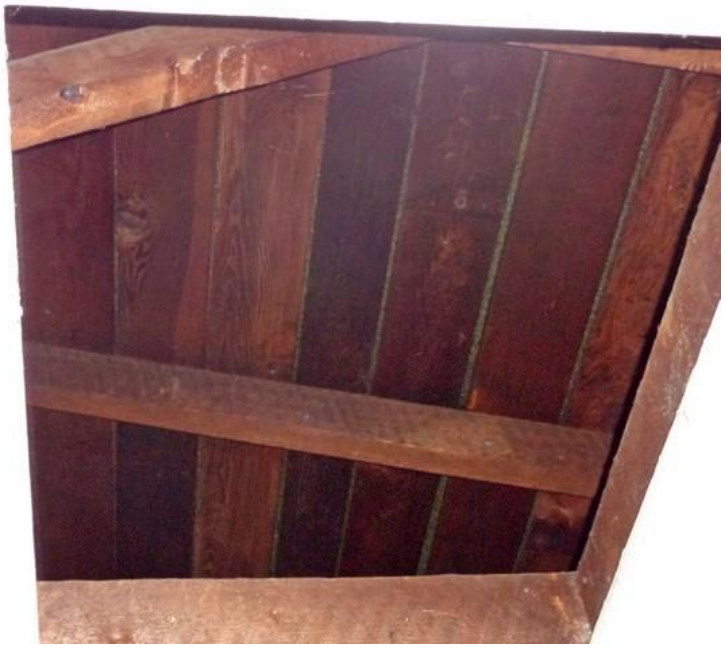


Figure 3: Underside of roof sheathing

Figure 4: Fallen plaster ceiling and damaged wood lath

Figure 5: Damaged plaster wall with exposed wood lath

Figure 6: Evidence of ponding at floor

Figure 7: Post and concrete pier footing in crawl space (as seen in 2006)

C LACO No. 1121 (Staff Cottage) – Preservation/Adaptive Reuse Cost Plan

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Feasibility Study Cost Plan

Staff Cottage (LACO 1121)

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Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

			SF	$/SF	TOTAL $ x 1,000
B1	Staff Cottage (LACO 1121)		1,789	498.60	892
SUB-TOTAL BUILDING CONSTRUCTION			1,789	498.60	892
S1	Sitework		2,000	94.50	189
	Premium for enhanced sustainable site features				16
SUB-TOTAL SITEWORK					205
TOTAL BUILDING AND SITEWORK					**1,097**
Escalation to Midpoint (Jul 2021)		11.7%			128
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			98
	Project Management Consultant Services	3.0%			40
	FF & E	5.8%			79
	Taxes and Indirect Fees	1.0%			14
	Building Permit and Other Agency Fees	1.5%			22
	Owner Contingency/Construction Contingency	25.0%			370
Recommended Budget					***1,848***

Feasibility Study Cost Plan — Staff Cottage (LACO 1121) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	1,789		
TOTAL GROSS FLOOR AREA	**1,789**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.559
Gross Area		1,789	SF	1.000
Enclosed Area		1,789	SF	1.000
Covered Area		0	SF	-
Footprint Area		1,789	SF	1.000
Gross Wall Area		1,700	SF	0.950
Finished Wall Area		1,700	SF	0.950
Windows or Glazing	16%	270	SF	0.151
Roof Area - Sloping		1,900	SF	1.062
Roof Area - Total		1,900	SF	1.062
Roof Glazing Area		0	SF	-
Interior Partitions		176	LF	0.098
Finished Area		1,789	SF	1.000

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Feasibility Study Cost Plan — Staff Cottage (LACO 1121) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	1,789 SF	
A10	Foundations		2%	10.00	18
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	18
B10	Superstructure		9%	45.23	81
B20	Exterior Enclosure		10%	50.92	91
B30	Roofing		5%	22.83	41
B	Shell		24%	118.98	213
C10	Interior Construction		5%	26.00	47
C20	Stairways		0%	0.00	0
C30	Interior Finishes		11%	53.87	96
C	Interiors		16%	79.87	143
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		5%	22.51	40
D30	Heating, Ventilation & Air Cond.		10%	51.27	92
D40	Fire Protection		1%	7.00	13
D50	Elect'l Lighting, Power & Comm.		15%	75.99	136
D	Services		31%	156.77	280
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	17.92	32
E	Equipment & Furnishings		4%	17.92	32
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		1%	6.74	12
F	Special Construction & Demolition		1%	6.74	12
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	390.28	698
Z10	Design Contingency	10.00%	8%	39.03	70
Z11	General Requirements	4.00%	3%	17.17	31
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	446.48	799
Z21	General Conditions	6.00%	5%	26.79	48
Z22	Bonds & Insurance	1.50%	1%	7.10	13
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	18.01	32
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	498.38	892
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	498.60	892

Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				17,890
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation; allow for new seharwall foundation	1,789	SF	10.00	17,890
A1030 Slab On Grade				
Remove/replace ramp including railings				*site*
				17,890
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				36,262
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 30%	500	SF	30.00	15,000
Lightweight concrete topping, 1 1/2"	1,789	SF	3.50	6,262
New shear walls, allow 25%	500	SF	30.00	15,000
B1020 Roof Construction				44,650
Repair roof structure; strengthen wall and diaphragm connection, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, provide new roof sheathing	1,900	SF	23.50	44,650
				80,912

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Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				58,150
Strengthening of existing exterior walls; add shear panels to interior and exterior	1,700	SF	7.00	11,900
Weather barrier at exterior walls	1,700	SF	2.50	4,250
Remove wood siding and reinstall after installation of shear panels, patch/repair where necessary	1,700	SF	6.00	10,200
Plaster and repaint throughout interior face of exterior walls	1,700	SF	13.00	22,100
Loose fill insulation	1,700	SF	3.50	5,950
Remove and replace tongue & groove eaves	150	SF	25.00	3,750
B2020 Exterior Windows				28,350
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	203	SF	100.00	20,250
New windows similar kind, high performance glazing; allow 25%	68	SF	120.00	8,100
B2030 Exterior Doors				4,600
New exterior doors	2	EA	2,300.00	4,600
				91,100
B30 Roofing				
B3010 Roof Coverings				40,850
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	1,900	SF	21.50	40,850
				40,850
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000
C1020 Interior Doors				19,350
New wood doors including frames and hardware	9	EA	2,150.00	19,350

Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

	Quantity	Unit	Rate	Total
C1030 Fittings				15,156
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	1,789	SF	4.00	7,156
				46,506
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				21,240
Patch/repair wall plaster, allow 30%	900	SF	14.00	12,600
Ceramic wall tiles to toilets	480	SF	18.00	8,640
C3020 Floor Finishes				12,523
New floor finishes including base	1,789	SF	7.00	12,523
Repair existing flooring				*n/a*
C3030 Ceiling Finishes				62,615
New gypsum plaster ceiling	1,789	SF	35.00	62,615
				96,378
D10 Conveying Systems				
				0

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Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				6,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	3	EA	2,000.00	6,000
D2020 Domestic Water Distribution				12,750
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	3	EA	3,000.00	9,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	1,250.00	1,250
D2030 Sanitary Waste				14,367
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	1,789	SF	2.00	3,578
Condensate drainage pipework, fittings, < = 1-1/2", insulated	1,789	SF	1.00	1,789
Waste, vent, fittings, < = 6"	3	EA	3,000.00	9,000
D2040 Rain Water Drainage				5,367
Surface water drainage				
Roof & overflow drains, < = 6"	1,789	SF	3.00	5,367
D2090 Other Plumbing Systems				1,789
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	1,789.00	1,789
				40,273

MGAC

Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				19,058
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	75	mbth	27.50	2,063
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	1,789	SF	1.50	2,684
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	1,789	SF	8.00	14,312
D3040 Distribution Systems				40,644
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	2,236	LB	12.00	26,835
Dampers	1	LS	2,683.50	2,684
Insulation	1,677	SF	4.50	7,547
Diffusers, registers and grilles	1,789	SF	2.00	3,578
D3050 Terminal & Package Units				19,289
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	5	Ton	3,500.00	17,500
VAV boxes, terminal reheat (1/1,000 SF)	2	EA	1,000.00	1,789
D3060 Controls and Instrumentation				8,051
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	1,789	SF	4.50	8,051
D3070 Systems Testing & Balancing				2,684
Test and balance air systems	1,789	SF	1.50	2,684
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				91,725

MGAC

Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				12,523
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	1,789	SF	7.00	12,523
				12,523
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				24,137
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	200	AM	65.00	13,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	5	kVA	975.00	4,875
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	1,789	SF	3.50	6,262
Photovoltaic panels				*n/a*
D5020 Lighting & Branch Wiring				71,560
User convenience power				
Panel board breakers, 120 V circuits	1,789	SF	2.00	3,578
Receptacles, including conduit and cable	1,789	SF	5.50	9,840
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	1,789	SF	27.50	49,198

Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	1,789	SF	5.00	8,945
D5030 Communications & Security				25,046
Telephone and communications				
Telephone/data - including conduit & cable	1,789	SF	6.50	11,629
WAP	1,789	SF	1.00	1,789
DAS - Emergency response & cellular	1,789	SF	4.00	7,156
Cable tray/wire-way/j-hooks	1,789	SF	1.00	1,789
Audiovisual rough-in	1,789	SF	1.50	2,684
D5090 Other Electrical Systems				15,207
Fire alarm systems	1,789	SF	4.50	8,051
Security - perimeter access control & CCTV surveillance	1,789	SF	4.00	7,156
				135,949

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				32,050
Cabinets, countertops shelving and millwork	25	LF	1,000.00	25,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	270	SF	15.00	4,050
Entrance mat				*n/a*
				32,050

Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				12,055
Selective demolition				
Exterior window	68	SF	5.00	338
Doors	11	EA	150.00	1,650
Roofing including roof sheathing	1,900	SF	1.00	1,900
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	1,789	SF	3.00	5,367
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	1,140	SF	2.00	2,280
F2020 Hazardous Components Abatement				
				12,055

MGAC

Feasibility Study Cost Plan — Staff Cottage (LACO 1121)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Staff Cottage (LACO 1121)				
Gross Site Area	3,800	SF		
Building footprint	1,789	SF		
Net Site Area	2,000	SF		
General site clearing, demo and remove paving/landscaping	2,000	SF	4.00	8,000
Site paving, site structures, fencing, landscaping & irrigation	2,000	SF	25.00	50,000
Premium for permeable paving	1,000	SF	13.00	13,000
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	2,000	SF	6.00	12,000
Site Utilities	2,000	SF	25.00	50,000
Alternate Cost Before Markups				**148,000**
Z10 Design Contingency	10.00%			14,800
Z11 General Requirements	4.00%			6,512
Z21 General Conditions	6.00%			10,159
Z22 Bonds & Insurance	1.50%			2,692
Z23 Contractor's Overhead, Profit & Fee	3.75%			6,831
				188,994

D LACO No. 1121 (Staff Cottage) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Staff Cottage #1121

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Staff Cottage (LACO #1121) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Staff Cottage #1121 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South*

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

Campus, County of Los Angeles, City of Downey, California Historic District Report prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Staff Cottage (LACO #1121), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING PLAN

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABILIZATION		
St- I	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is the building's stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular building standards or alternative standards under the 2013 California Historical

		Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is severely deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project, light gauge prefinished aluminum components are an acceptable alternative to a more durable construction system. Provide rain leader extensions to take water away from the base*

		of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to Item M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PESTS CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly, the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, although in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects to the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals of small animals and pests prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed, as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present, to make recommendations for abatement, and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing is remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended.*
H-6	Is there a building file?	There are some available plans, elevations and other documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally and shall report a signal to a central station*

		that automatically notifies the fire department. *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings on the subject property frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fire smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance provided above.*

UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required.*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage

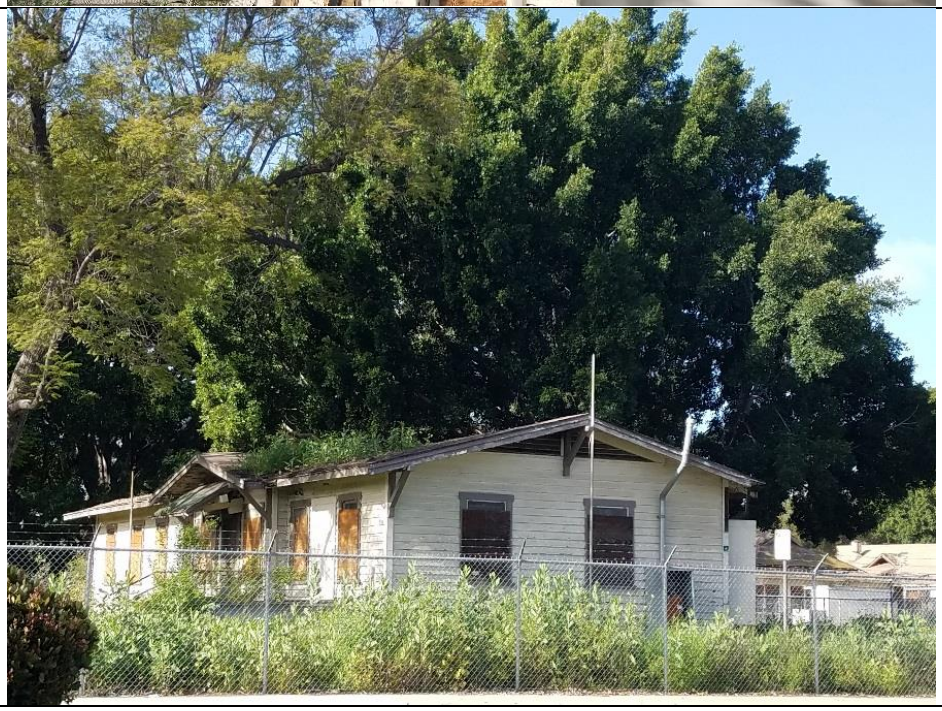
		• pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS

Staff Cottage #1121

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Entry door and window plywood covering.	
2	Interior condition	

3	Eaves and missing gutters	
4	Adjoining site condition	

E LACO No. 1121 (Staff Cottage) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Staff Cottage (LACO 1121)

Mothballing Cost Plan — Staff Cottage (LACO 1121)

			SF	$/SF	TOTAL $ x 1,000
B1	Staff Cottage (LACO 1121)		1,789	41.92	75
TOTAL BUILDING CONSTRUCTION			1,789	41.92	75
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**75**
Escalation to Midpoint (Jul 2021)		11.7%			9
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			3
	Project Management Consultant Services	2.0%			2
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			1
	Building Permit and Other Agency Fees	1.5%			1
	Owner Contingency/Construction Contingency	10.0%			9
Recommended Budget					***100***

MGAC

Mothballing Cost Plan — Staff Cottage (LACO 1121)

Item Description	Quantity	Unit	Rate	Total
1.) Staff Cottage (LACO 1121)				
No of floors	***1***	***EA***		
Gross Floor Area	***1,789***	***SF***		
Gross Wall Area	***1,700***	***SF***		
Roof Area	***1,900***	***SF***		
Windows Area	***270***	***SF***		
Gross Site Area	***3,800***	***SF***		
Building footprint	***1,789***	***SF***		
Net Site Area	***2,000***	***SF***		
Stabilized structure	1,789	SF	1.50	2,684
Repaint exterior walls	1,700	SF	2.00	3,400
Protect existing openings (exterior doors)	2	EA	800.00	1,600
Install hard protection/boarding to windows	270	SF	25.00	6,750
Seal all openings to eliminate small animals and pests from entering and nesting in the building	1,700	SF	0.10	170
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	1,900	SF	15.00	28,500
Termites, ants, rodents etc - inspection and allowance for treatment	1,789	SF	0.25	447
Install smoke & fire detectors including wiring	1,789	SF	1.50	2,684
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	1	EA	275.00	275
Remove debris and broom clean	1,789	SF	0.75	1,342
Clear site of weeds and overgrown trees	2,000	SF	0.50	1,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**58,351**
Z10 Design Contingency	15.00%			8,753
Z11 General Requirements	3.00%			2,013
Z21 General Conditions	3.00%			2,074
Z22 Bonds & Insurance	1.50%			1,068
Z23 Contractor's Overhead, Profit & Fee	3.75%			2,710
				74,968

Feasibility Study Reports for LACO No. 1123 (Staff Cottage)

Secondary Contributor

ESA

A LACO No. 1123 (Staff Cottage) – Architectural Assessment Report

Staff Cottage (LACO 1123)

1,789 s.f.
Secondary Contributor to Historic District

Building Description

One of two nearly identical buildings, the Staff Cottage (LACO No. 1123) is located on the northeast corner of Hawthorn Avenue and Flores Street. The Staff Cottage is a one-story building, asymmetrical in appearance, and rectangular in plan. Although displaying some influence of the Craftsman bungalow style, the building is vernacular in design. The wood-framed building is capped by a low-pitched, cross-gabled roof with rafters, and knee braces exposed in the overhanging eaves. Rolled asphalt and composition shingles cover the roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. The building sits on a concrete slab foundation and is clad in horizontal lapped wood siding. Fenestration on all elevations consist of a primarily linear arrangement of variously sized wood-framed, one-over-one, double-hung sash windows, whose plain wood casings are characterized by slightly extended lintels. The primary entrance (east façade) is offset slightly to the north in the slightly raised center bay and is sheltered by a shed roof that projects from the front gabled end. False beams support the shed roof. Plain wood trim with extended lintels frames the entry, which consists of the original wood glazed and paneled door and screen door. Three additional entries on the east façade, two to the south of the gabled projection and one to the north, are similarly framed and have been enclosed in plywood. A non- original concrete stepped stoop with iron pipe railings provides access to the main entrance. Each of the four entries is flanked to each side by single windows. Two secondary entrances, accessed by four steps, are located on the rear elevation.[1]

Statement of Significance

The significance of LACO No. 1123 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> The Staff Cottage (LACO No. 1123) was constructed in 1924 as living quarters for staff of the County Poor Farm who worked in the patient ward buildings. ESA evaluated LACO No. 1123 under the following historical theme: Development of the Los Angeles County Poor Farm and Rancho Los Amigos (1888-1952). Based upon its date of construction and building type, LACO No. 1123 appears significant for its association with the Development of Rancho Los Amigos (1907-1932) era. LACO No. 1123 retains sufficient integrity to convey its original use as staff cottages. Though degraded, it is still intact and, in its present condition, retains integrity of location, feeling, and association. It does not retain integrity

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Staff Cottage (LACO No. 1123),* prepared for the County of Los Angeles June 2, 2008.

of setting due to the removal of the additional rows of staff cottages to the northeast sometime in the 1980s when the County re-zoned former Rancho Los Amigos land and sold it for commercial development. It also does retain integrity of design, materials, and workmanship due to the alterations and deterioration it has sustained, as recorded by Sapphos in 2007-2011 and ESA in 2017. LACO No. 1123 retains sufficient integrity, however, to convey its historical associations with the transition of the property from a poor farm to long-term care facility. Therefore, ESA recommends that the eligibility of LACO No. 1123 remain unchanged and that it continues to be considered a contributor to the District. ESA recommends that LACO No. 1123 retain its existing NRHP status code of 2D2, noting it as a contributor to the District.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration. All roofing components – including flashing, roof and gutters – are in need of repair or replacement.	• **1,789 s.f.**

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, Staff Cottage (LACO No. 1123),* prepared for the County of Los Angeles January 8, 2018.

• **Exterior walls –** Exterior wood siding appears to be in reasonable condition.	• **3,000 s.f.**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **One 3'x 7' door**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **18 wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **1,789 s.f.**
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **1,789 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation –** No mechanical ventilation was observed.	

Proposed New Upgrades

Exterior

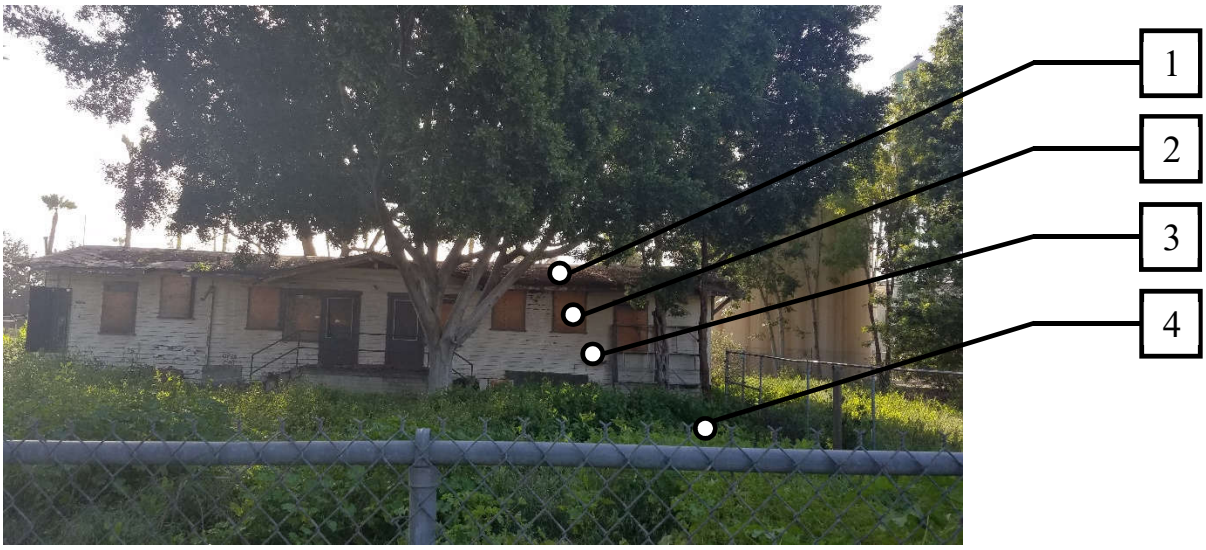
Character Defining features	
• **Roofing**-Replace entire composition shingle roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **1,789 s.f.**
• **Exterior walls** – Repair and paint wood siding.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **1- 3'x7' door**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **18- 3'x 5' wood windows**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **2,000 s.f. courtyard.**

Interior Spaces

The existing interior spaces were vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

It is assumed that this 1,789 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **1,789 s.f.**
• **Walls –** Remove paint and repair all perimeter interior walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **1,789 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **20 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 5-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **1 unisex restroom**
• **Electrical** – Provide new 200 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in provided location with new railings and new maximum slope of 8%	



West Elevation

North Elevation

1. Provide new composition roof.
2. Remove plywood; repair wood windows.
3. Repair and repaint wood siding.
4. Remove and replace landscaping.
5. Repair and repaint interior walls.
6. Remove all interior debris.
7. Remove and replace “in-kind” tongue and groove eaves.
8. Replace door “in-kind’.

B LACO No. 1123 (Staff Cottage) – Structural Assessment Report

Structural Assessment: Staff Cottage
(LACO NO. 1123)

Summary of Assessment

The Staff Cottages, LACO Nos. 1121 and 1123, are two identically sized buildings constructed in the 1920s. The buildings are the same not only in size but also in construction type, location on the property, and current condition. Only LACO No. 1121 was accessed for observation, but the findings and recommendations in this report are expected to apply equally to both buildings. The building is typical wood construction on concrete footings with a pitched roof consisting of wood sheathing over wood framing. The building is rectangular, with its long direction running north to south, and comprises an area of approximately 1,789 square feet.

The Staff Cottage (LACO No. 1123) is in fair to poor condition. Deterioration and damage were observed throughout the structure. Additionally, the building does not appear to have an adequate lateral force resisting system. Strengthening and new connections will be needed throughout the building. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Staff Cottage building is situated such that its long direction runs north to south. The footprint of the building is about 22 feet x 64 feet with a story height of about 12 feet. A shingle roof overlays ½-inch thick straight board sheathing over 2 x 4 rafters spaced at 24 inches and 32 on center. The roof framing is supported by the exterior building walls and may derive some support from bearing walls and/or posts (within the walls) at the building interior. The exterior walls have 6-inch wood horizontal siding installed over 2 x 4 wood studs. The interior walls are framed with 2-inch wood studs. These walls are finished with plaster over wood lath, which is no longer common practice for wood construction. The floor also consists of wood framing and is elevated approximately 30 inches above the ground by a perimeter cripple wall. The perimeter cripple wall is supported by a continuous concrete footing, while the raised floor is supported by sub-grade wood posts on individual concrete piers.

Condition Assessment

The general condition of the building at its exterior appears fair to poor. As mentioned above, only LACO No. 1121 was accessible for a full observation, but both buildings have the same construction type and it is assumed that the two buildings have experienced similar deterioration. The photos shown are representative photos from LACO No. 1121. LACO No. 1123 is shown in Figure 8.

There is evidence of deterioration at the roof framing members that have been exposed to the elements (Figure 1 and Figure 2). This deterioration (likely dry rot and/or water damage) may extend to framing that was not exposed and visible. There are no signs of major structural distress or building settlement, and the roof framing that was observed from the inside of the building appeared to be in decent condition (Figure 3). However, ceiling and wall coverings are severely damaged. Figure 4 shows an area where the plaster ceiling has fallen, and the wood lath is both broken and stained from prolonged moisture. The plaster ceilings should be replaced since they present a possible falling hazard and safety risk. Similar damage to the wood lath and plaster wall can be seen in Figure 5. In some areas, the floor was wet and showed evidence of ponding or flooding as shown in Figure 6. This is an indication that there could be water damage to the floor framing as well.

Due to standard practice at the time of construction, this building is expected to have very limited lateral capacity. The building's perseverance through pervious nearby earthquakes is primarily due to its lightweight construction. The interior walls, covered by wood lath and plaster, help in resisting lateral forces but do not provide the same level of resistance used in current building design. The wood siding at the exterior walls does not provide lateral support and serves as a wall covering only. Based on the time of construction and observations of other buildings at the site, it is

assumed that this building lacks proper connections between the roof diaphragm and the walls. Additionally, there is no apparent anchorage of the interior walls or cripple walls to the foundation. The concrete piers supporting the interior floor were observed during a previous analysis in 2006 and are shown in Figure 7[1]. These appeared to be in good condition at the time, however, they are not properly attached to the building and their condition may have deteriorated over time.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. These buildings' lightweight construction significantly reduces the forces and stresses induced on a building during an earthquake. This is likely the reason why the Staff Cottage building appears to have performed decently in past seismic events.

However, in the event of a moderate earthquake predicted by current code standards, the building would be expected to perform below a Life Safety Performance Level. The existing roof and wall construction are expected to withstand very little lateral force. In addition, the cripple walls below the floor would be subjected to a high amount of movement and shear stress. Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

Summary of Proposed Upgrades

The expected seismic performance of the building in its current condition is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

- Add new plywood sheathing or steel shear panels to all exterior walls and interior walls. Reinstall wall coverings over the top of new plywood, if necessary, to preserve the character-defining features of the building.
- It may be necessary to add new interior shear walls across the building. All new shear walls would require new continuous footings with stem walls or cripple walls. Installing plywood over the entire floor area to transfer interior wall shears to the perimeter cripple walls might be an alternative to adding new footings beneath the interior shear walls. With this approach, the posts and piers beneath the end posts of the shear walls would need to be strengthened to support overturning forces.
- Add holdowns at the end posts of all shear walls. This includes all new walls and all existing walls where plywood or shear panels were added.
- Strengthen and stiffen the perimeter cripple wall for shear stresses by adding plywood on one or both sides.
- Add anchor bolts along the length of the cripple wall to provide a proper connection between the cripple wall and the foundation. Add holdowns as needed to adequately transfer shear forces from the cripple wall to the foundation.
- Strengthen the perimeter concrete footing as needed to support the exterior walls and the shear forces transferred by the cripple walls.
- Attach subgrade posts to their supporting concrete piers with holdowns or similar hardware. Strengthen the posts and/or piers if needed.

[1] *This photograph (figure) was taken in 2006 during a previous structural assessment of the same property by Coffman Engineers.*

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Install anchors as needed between roof framing and the walls to adequately transfer roof forces to the walls.
- Install steel connectors as needed to create a positive connection between the roof beams and girders to their supports.

General Condition

- Replace deteriorated wood members in floor, roof, and walls as needed.
- Remove and replace plaster ceilings.
- Upgrade foundations throughout the building.

Figure 1: Deteriorated roof framing

Figure 2: Moisture damage and dry rot at exposed framing

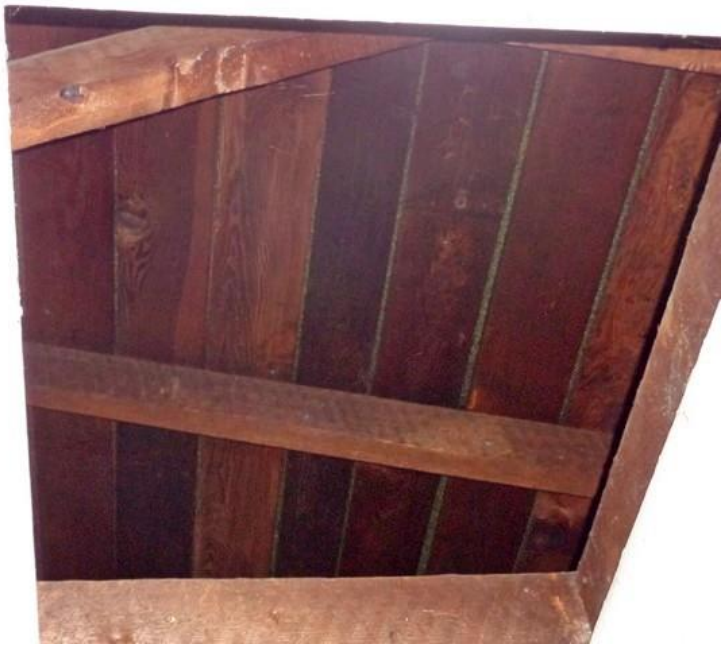


Figure 3: Underside of roof sheathing

Figure 4: Fallen plaster ceiling and damaged wood lath

Figure 5: Damaged plaster wall with exposed wood lath

Figure 6: Evidence of ponding at floor

Figure 7: Post and concrete pier footing in crawl space (as seen in 2006)

Figure 8: Exterior condition at LACO No. 1123

C LACO No. 1123 (Staff Cottage) – Preservation/Adaptive Reuse Cost Plan

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Feasibility Study Cost Plan

Staff Cottage (LACO 1123)

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Feasibility Study Cost Plan — Staff Cottage (LACO 1123)

			SF	$/SF	TOTAL $ x 1,000
B1	Staff Cottage (LACO 1123)		1,789	498.60	892
SUB-TOTAL BUILDING CONSTRUCTION			1,789	498.60	892
S1	Sitework		2,000	94.50	189
	Premium for enhanced sustainable site features				16
SUB-TOTAL SITEWORK					205
TOTAL BUILDING AND SITEWORK					**1,097**
Escalation to Midpoint (Jul 2021)		11.7%			128
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			98
	Project Management Consultant Services	3.0%			40
	FF & E	5.8%			79
	Taxes and Indirect Fees	1.0%			14
	Building Permit and Other Agency Fees	1.5%			22
	Owner Contingency/Construction Contingency	25.0%			370
Recommended Budget					***1,848***

Feasibility Study Cost Plan — Staff Cottage (LACO 1123) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	1,789		
TOTAL GROSS FLOOR AREA	**1,789**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.559
Gross Area		1,789	SF	1.000
Enclosed Area		1,789	SF	1.000
Covered Area		0	SF	-
Footprint Area		1,789	SF	1.000
Gross Wall Area		1,700	SF	0.950
Finished Wall Area		1,700	SF	0.950
Windows or Glazing	16%	270	SF	0.151
Roof Area - Sloping		1,900	SF	1.062
Roof Area - Total		1,900		1.062
Roof Glazing Area		0	SF	-
Interior Partitions		176	LF	0.098
Finished Area		1,789	SF	1.000

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Feasibility Study Cost Plan — Staff Cottage (LACO 1123) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	1,789 SF	
A10	Foundations		2%	10.00	18
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	18
B10	Superstructure		9%	45.23	81
B20	Exterior Enclosure		10%	50.92	91
B30	Roofing		5%	22.83	41
B	Shell		24%	118.98	213
C10	Interior Construction		5%	26.00	47
C20	Stairways		0%	0.00	0
C30	Interior Finishes		11%	53.87	96
C	Interiors		16%	79.87	143
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		5%	22.51	40
D30	Heating, Ventilation & Air Cond.		10%	51.27	92
D40	Fire Protection		1%	7.00	13
D50	Elect'l Lighting, Power & Comm.		15%	75.99	136
D	Services		31%	156.77	280
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	17.92	32
E	Equipment & Furnishings		4%	17.92	32
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		1%	6.74	12
F	Special Construction & Demolition		1%	6.74	12
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	390.28	698
Z10	Design Contingency	10.00%	8%	39.03	70
Z11	General Requirements	4.00%	3%	17.17	31
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	446.48	799
Z21	General Conditions	6.00%	5%	26.79	48
Z22	Bonds & Insurance	1.50%	1%	7.10	13
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	18.01	32
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	498.38	892
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	498.60	892

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Feasibility Study Cost Plan — Staff Cottage (LACO 1123)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				17,890
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation; allow for new seharwall foundation	1,789	SF	10.00	17,890
A1030 Slab On Grade				
Remove/replace ramp including railings				*site*
				17,890
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				36,262
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 30%	500	SF	30.00	15,000
Lightweight concrete topping, 1 1/2"	1,789	SF	3.50	6,262
New shear walls, allow 25%	500	SF	30.00	15,000
B1020 Roof Construction				44,650
Repair roof structure; strengthen wall and diaphragm connection, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, provide new roof sheathing	1,900	SF	23.50	44,650
				80,912

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				58,150
Strengthening of existing exterior walls; add shear panels to interior and exterior	1,700	SF	7.00	11,900
Weather barrier at exterior walls	1,700	SF	2.50	4,250
Remove wood siding and reinstall after installation of shear panels, patch/repair where necessary	1,700	SF	6.00	10,200
Plaster and repaint throughout interior face of exterior walls	1,700	SF	13.00	22,100
Loose fill insulation	1,700	SF	3.50	5,950
Remove and replace tongue & groove eaves	150	SF	25.00	3,750
B2020 Exterior Windows				28,350
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	203	SF	100.00	20,250
New windows similar kind, high performance glazing; allow 25%	68	SF	120.00	8,100
B2030 Exterior Doors				4,600
New exterior doors	2	EA	2,300.00	4,600
				91,100
B30 Roofing				
B3010 Roof Coverings				40,850
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	1,900	SF	21.50	40,850
				40,850
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000
C1020 Interior Doors				19,350
New wood doors including frames and hardware	9	EA	2,150.00	19,350

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Feasibility Study Cost Plan — Staff Cottage (LACO 1123)

	Quantity	Unit	Rate	Total
C1030 Fittings				15,156
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	1,789	SF	4.00	7,156
				46,506
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				21,240
Patch/repair wall plaster, allow 30%	900	SF	14.00	12,600
Ceramic wall tiles to toilets	480	SF	18.00	8,640
C3020 Floor Finishes				12,523
New floor finishes including base	1,789	SF	7.00	12,523
Repair existing flooring				*n/a*
C3030 Ceiling Finishes				62,615
New gypsum plaster ceiling	1,789	SF	35.00	62,615
				96,378
D10 Conveying Systems				
				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				6,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	3	EA	2,000.00	6,000
D2020 Domestic Water Distribution				12,750
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	3	EA	3,000.00	9,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	1,250.00	1,250
D2030 Sanitary Waste				14,367
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	1,789	SF	2.00	3,578
Condensate drainage pipework, fittings, < = 1-1/2", insulated	1,789	SF	1.00	1,789
Waste, vent, fittings, < = 6"	3	EA	3,000.00	9,000
D2040 Rain Water Drainage				5,367
Surface water drainage				
Roof & overflow drains, < = 6"	1,789	SF	3.00	5,367
D2090 Other Plumbing Systems				1,789
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	1,789.00	1,789
				40,273

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				19,058
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	75	mbth	27.50	2,063
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	1,789	SF	1.50	2,684
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	1,789	SF	8.00	14,312
D3040 Distribution Systems				40,644
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	2,236	LB	12.00	26,835
Dampers	1	LS	2,683.50	2,684
Insulation	1,677	SF	4.50	7,547
Diffusers, registers and grilles	1,789	SF	2.00	3,578
D3050 Terminal & Package Units				19,289
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	5	Ton	3,500.00	17,500
VAV boxes, terminal reheat (1/1,000 SF)	2	EA	1,000.00	1,789
D3060 Controls and Instrumentation				8,051
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	1,789	SF	4.50	8,051
D3070 Systems Testing & Balancing				2,684
Test and balance air systems	1,789	SF	1.50	2,684
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				91,725

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				12,523
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	1,789	SF	7.00	12,523
				12,523
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				24,137
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	200	AM	65.00	13,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	5	kVA	975.00	4,875
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	1,789	SF	3.50	6,262
D5020 Lighting & Branch Wiring				71,560
User convenience power				
Panel board breakers, 120 V circuits	1,789	SF	2.00	3,578
Receptacles, including conduit and cable	1,789	SF	5.50	9,840
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	1,789	SF	27.50	49,198

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	1,789	SF	5.00	8,945
D5030 Communications & Security				25,046
Telephone and communications				
Telephone/data - including conduit & cable	1,789	SF	6.50	11,629
WAP	1,789	SF	1.00	1,789
DAS - Emergency response & cellular	1,789	SF	4.00	7,156
Cable tray/wire-way/j-hooks	1,789	SF	1.00	1,789
Audiovisual rough-in	1,789	SF	1.50	2,684
D5090 Other Electrical Systems				15,207
Fire alarm systems	1,789	SF	4.50	8,051
Security - perimeter access control & CCTV surveillance	1,789	SF	4.00	7,156
				135,949

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				32,050
Cabinets, countertops shelving and millwork	25	LF	1,000.00	25,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	270	SF	15.00	4,050
Entrance mat				*n/a*
				32,050

F10 Special Construction

				0

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Feasibility Study Cost Plan — Staff Cottage (LACO 1123)

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				12,055
Selective demolition				
Exterior window	68	SF	5.00	338
Doors	11	EA	150.00	1,650
Roofing including roof sheathing	1,900	SF	1.00	1,900
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	1,789	SF	3.00	5,367
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	1,140	SF	2.00	2,280
F2020 Hazardous Components Abatement				
				12,055

MGAC

Feasibility Study Cost Plan — Staff Cottage (LACO 1123)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Staff Cottage (LACO 1123)				
Gross Site Area	3,800	SF		
Building footprint	1,789	SF		
Net Site Area	2,000	SF		
General site clearing, demo and remove paving/landscaping	2,000	SF	4.00	8,000
Site paving, site structures, fencing, landscaping & irrigation	2,000	SF	25.00	50,000
Premium for permeable paving	1,000	SF	13.00	13,000
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	2,000	SF	6.00	12,000
Site Utilities including site lighting and drainage	2,000	SF	25.00	50,000
Alternate Cost Before Markups				**148,000**
Z10 Design Contingency	10.00%			14,800
Z11 General Requirements	4.00%			6,512
Z21 General Conditions	6.00%			10,159
Z22 Bonds & Insurance	1.50%			2,692
Z23 Contractor's Overhead, Profit & Fee	3.75%			6,831
				188,994

D LACO No. 1123 (Staff Cottage) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Staff Cottage #1123

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Staff Cottage (LACO #1123) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Staff Cottage #1123 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South*

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

Campus, County of Los Angeles, City of Downey, California Historic District Report prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Staff Cottage (LACO #1123), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is the building's stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013 California Historical Building

		Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is severely deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction system. Provide rain leader extensions to take water away from the base of the building*

		and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system*

		prior to mothballing One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves.

		• *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting 1n the building.* • *Complete treatments and removals of small animals and pests prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed, as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present, and to make recommendations for abatement, and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of*

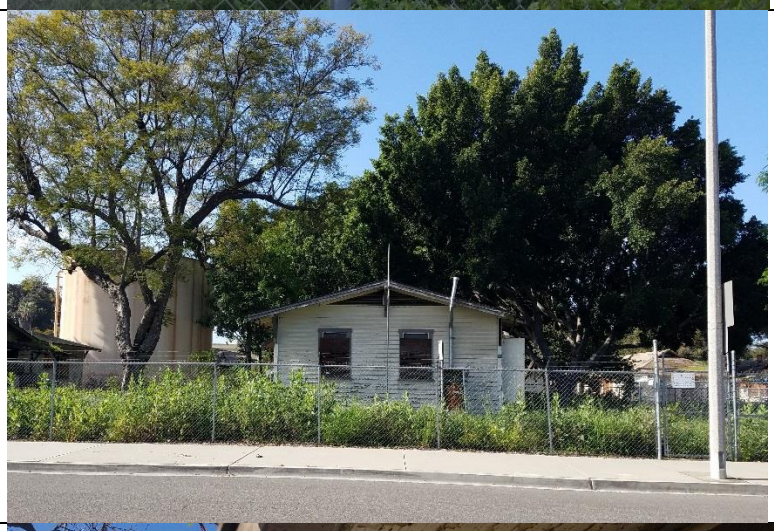
		removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified	SMS Architects' access to the subject

	that the building will be mothballed?	property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally and shall report a signal to a central station that automatically notifies the fire department.* *Install manual fire extinguishers attached to the exterior of the building at each personnel*

		door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings on the subject property frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies	Yes. County staff stated that all utility

	disconnected/shut off or fully inspected water, gas, and electric lines?	services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage

		• pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Entry door and window plywood covering.	
2	Site condition.	
3	Eaves and missing gutters	

E LACO No. 1123 (Staff Cottage) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Staff Cottage (LACO 1123)

MGAC

Mothballing Cost Plan — Staff Cottage (LACO 1123)

			SF	$/SF	TOTAL $ x 1,000
B1	Staff Cottage (LACO 1123)		1,789	41.92	75
TOTAL BUILDING CONSTRUCTION			1,789	41.92	75
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**75**
Escalation to Midpoint (Jul 2021)		11.7%			9
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			3
	Project Management Consultant Services	2.0%			2
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			1
	Building Permit and Other Agency Fees	1.5%			1
	Owner Contingency/Construction Contingency	10.0%			9
Recommended Budget					***100***

MGAC

Mothballing Cost Plan — Staff Cottage (LACO 1123)

Item Description	Quantity	Unit	Rate	Total
1.) Staff Cottage (LACO 1123)				
No of floors	***1***	***EA***		
Gross Floor Area	***1,789***	***SF***		
Gross Wall Area	***1,700***	***SF***		
Roof Area	***1,900***	***SF***		
Windows Area	***270***	***SF***		
Gross Site Area	***3,800***	***SF***		
Building footprint	***1,789***	***SF***		
Net Site Area	***2,000***	***SF***		
Stabilized structure	1,789	SF	1.50	2,684
Repaint exterior walls	1,700	SF	2.00	3,400
Protect existing openings (exterior doors)	2	EA	800.00	1,600
Install hard protection/boarding to windows	270	SF	25.00	6,750
Seal all openings to eliminate small animals and pests from entering and nesting in the building	1,700	SF	0.10	170
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	1,900	SF	15.00	28,500
Termites, ants, rodents etc - inspection and allowance for treatment	1,789	SF	0.25	447
Install smoke & fire detectors including wiring	1,789	SF	1.50	2,684
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	1	EA	275.00	275
Remove debris and broom clean	1,789	SF	0.75	1,342
Clear site of weeds and overgrown trees	2,000	SF	0.50	1,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**58,351**
Z10 Design Contingency	15.00%			8,753
Z11 General Requirements	3.00%			2,013
Z21 General Conditions	3.00%			2,074
Z22 Bonds & Insurance	1.50%			1,068
Z23 Contractor's Overhead, Profit & Fee	3.75%			2,710
				74,968

Feasibility Study Reports for LACO No. 1188 (General Ward 70)

Secondary Contributor

ESA

A LACO No. 1188 (General Ward 70) – Architectural Assessment Report

General Ward 70 (LACO 1188)

14,644 s,f,

Secondary Contributor to Historic District

Building Description

One of five nearly identical buildings, General Ward 70 (LACO No. 1188) is located on the southwest corner of the intersection of Erikson Avenue and Bonita Street. Four additional General Ward buildings are located north of the intersection. Reflecting a stripped Classical Revival style, General Ward 70 is two-stories in height with a rectangular plan and a symmetrical east-facing façade. The building sits on a concrete foundation and has reinforced concrete exterior walls with painted textured stucco. A flat roof caps the building; at the top of the wall plate, a crown molding is topped by a plain, projecting cornice. A continuous blind arcade divides the east (primary) and west (rear) elevations into tow bays, each bay containing two groups of four windows on each level. The blind arcade defines ten bays on the north and south elevations. Windows are primarily wood-framed, one-over-one, double-hung sash topped by hopper type transoms. A one-story hyphen connects the west end of the building to General Ward 50 to the north. Entrances are located centrally on the north, west and south elevations. Both original, single and double wood doors and metal replacement doors are present. The property is in deteriorated condition and its windows and doors have been boarded over with plywood.[1]

Statement of Significance

The significance of LACO No. 1188 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> General Ward 30 (LACO No. 1188) was constructed in circa 1928 to house patients of the Poor Farm. ESA evaluated LACO No. 1188 under the following historical themes: Development of the Los Angeles County Poor Farm and Rancho Los Amigos (1888-1952). Based upon its date of construction and building type, LACO No. 1188 appears significant for its association with the Development of Rancho Los Amigos (1907-1932) era. LACO No. 1188 retains sufficient integrity to convey its original use as living quarters for patients of the Poor Farm. Though degraded, it is still intact and, in its present condition, retains integrity of location, setting, design materials, workmanship, feeling, and association. LACO No. 1188 retains sufficient integrity to convey its historical associations with the transition of the property from a poor farm to a long-term care facility. Therefore, ESA recommends that the eligibility of LACO No. 1188 remain unchanged and that it continues

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L from for the Rancho Los Amigos Historic District, Patient Ward 201 (LACO No. 1188),* prepared for the County of Los Angeles (June 2, 2008).

to be considered a contributor to the District. ESA recommends that LACO No. 1188 retain its existing NRHP status code of 2D2, noting it as a contributor to the District.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** Building has a built-up roof. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **7,400 s.f.**
• **Exterior walls** – Exterior plaster is damaged in a minimal amount of areas. It is repairable in most areas.	• **10,300 s.f of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All	• **3 exterior doors**

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, General Ward 30 (LACO No. 1188),* prepared for the County of Los Angeles January 8, 2018.

existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **56- 3'x8' wood windows** • **17- 6'x10' window assemblies**

Interior spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage of the flooring was observed as well as visible standing water on flooring materials.	• **14,644 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area. Original covered screen porch has been enclosed.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, which have been severely damaged.	• **14,644 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing** – Replace entire built-up roof with a single ply, waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **7,400 s.f.**
• **Exterior walls**- Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage to interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide laminate glazing. Where repair is not possible replace, in-kind.	• **56- 3'x8' wood windows** • **17- 8'x10' window assemblies** • **Assume 20% replace in kind.**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building.	• **5,000 s.f. courtyard.**

Interior Spaces

It is assumed that this 14,644 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted in order to accommodate building features.

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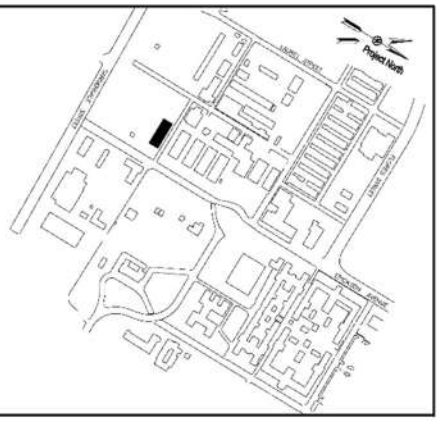
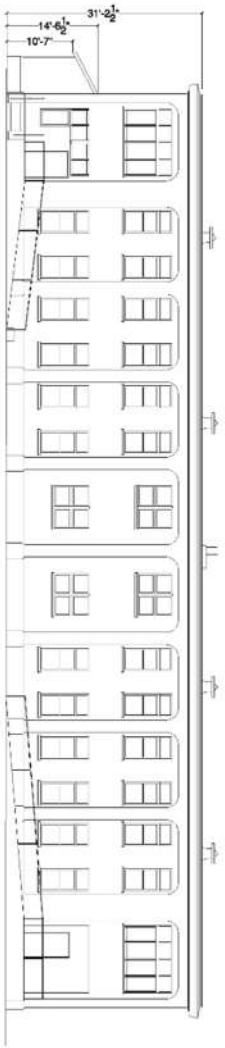
• **Flooring –** Remove and repair damaged concrete floor throughout.	• **14,500 s.f Assume 75% repair**
• **Walls –** Paint and repair all perimeter interior walls and new shotcrete walls. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow Clay tile walls will be encapsulated with 4" 16 ga. Studs and gyp bd. Each side.	• **10,300 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout.	• **14,500 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 lf.**
• **Lighting –** Provide new LED lighting throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton HVAC system ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **1 restroom core per floor- 8 fixtures plus 4 sinks.**
• **Elevator –** Provide new 3,000 lb. elevator.	• **(1) 3,000 lb. elevator**
• **Electrical** – Provide new 1200 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	

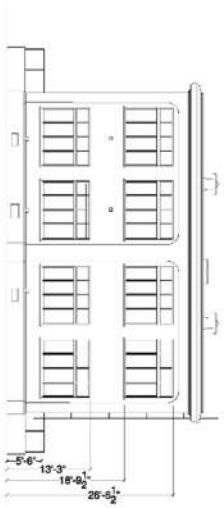
LOCATION PLAN (NOT TO SCALE)



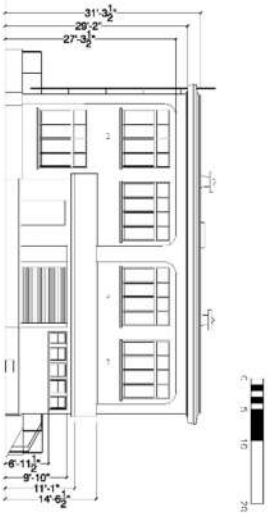


SOUTH ELEVATION

NORTH ELEVATION



EAST ELEVATION



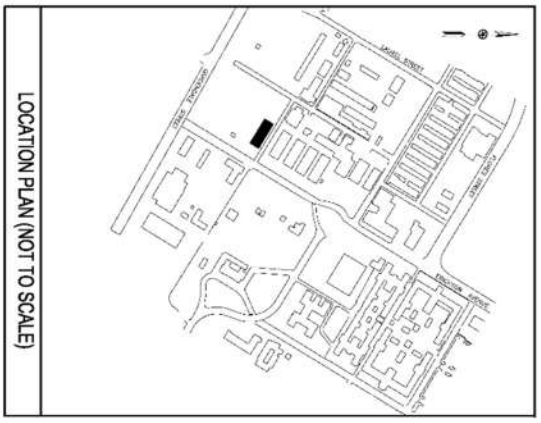
WEST ELEVATION

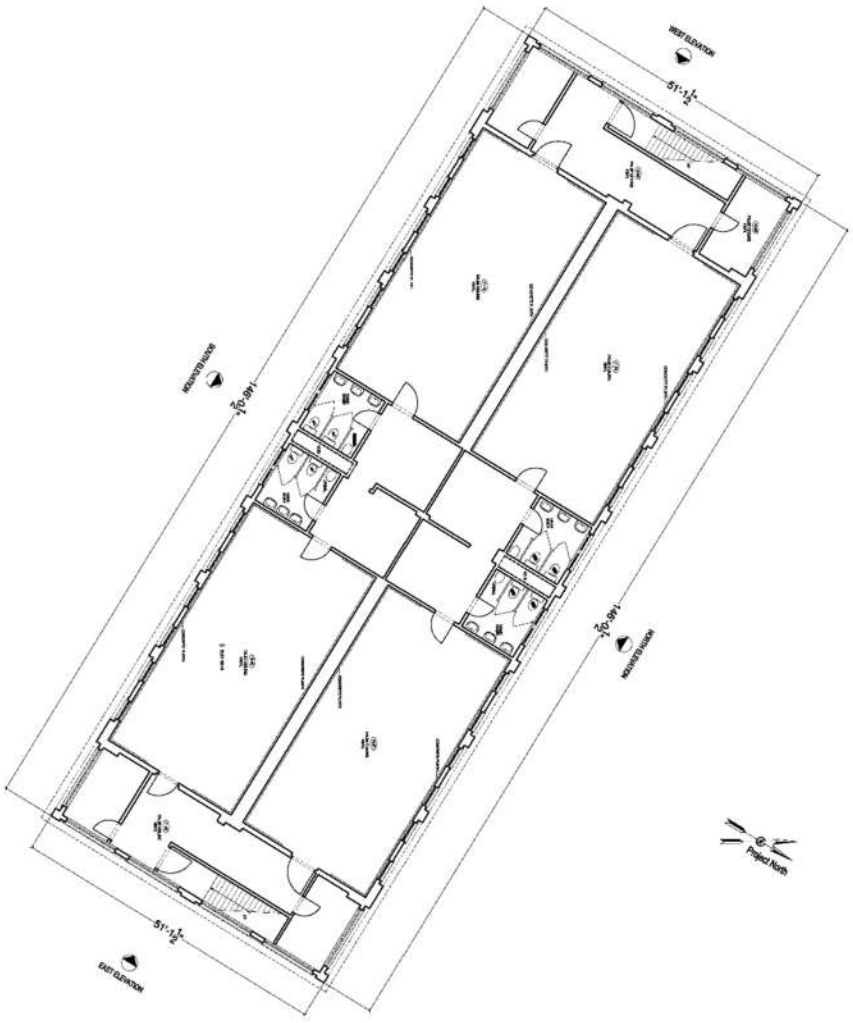
SOURCE: Mollenhaur Group

March 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	General Ward Building 70 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-H

LOCATION PLAN (NOT TO SCALE)

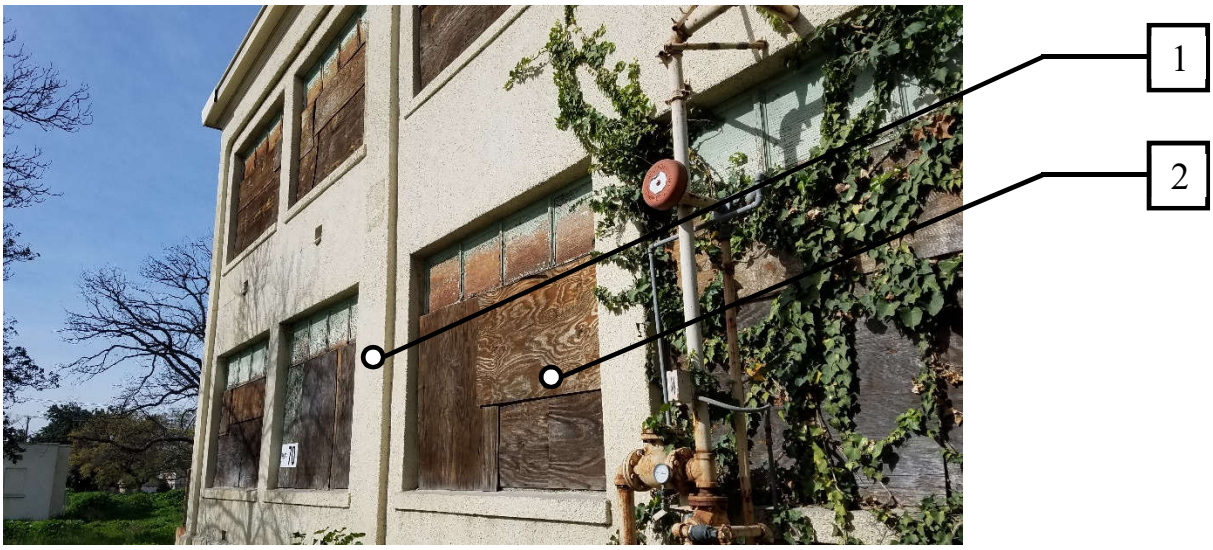




SOURCE: Mollenhaur Group

March 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	General Ward Building 70 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-H



East Elevation

North Elevation

1. Paint and patch plaster throughout.
2. Remove plywood, repair windows or replace “in kind”.
3. New entry door – replace “in kind”.
4. Remove existing non-bearing walls.
5. Remove all hazardous material and debris.

Interior with Suspended Ceiling

General Condition at Interior

1. Paint and patch plaster throughout.
2. Remove plywood, repair windows or replace “in kind”.
3. New entry door – replace “in kind”.
4. Remove existing non-bearing walls.
5. Remove all hazardous material and debris.

B LACO No. 1188 (General Ward 70) – Structural Assessment Report

Structural Assessment: General Ward 70
(LACO NO. 1188)

Summary of Assessment

This building is one of a group of five General Ward buildings (LACO Nos. 1184, 1185, 1186, 1187, and 1188), which were constructed between 1913 and 1929. Each of these buildings is rectangular in plan, and the buildings are situated adjacent to each other with their long dimensions running from east to west. The two-story structures feature concrete floors and roof slabs. This report describes conditions and suggested upgrades representative of the entire set of buildings, with some information specific to LACO No. 1188.

The building appears to be in poor condition. Damage and deterioration of building materials were noted throughout the structure. The expected seismic performance of this building, in its current condition, is poor. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this General Ward building. A detailed summary of these measures is included in the final section of this report. However, retrofitting older, nonductile concrete structures to meet a Life Safety Performance Level requires extensive inspection, materials testing, and strengthening.

Description of the Building

Each General Ward building is a two-story concrete structure that stands approximately 31 feet in height with concrete floors and roof slabs. Each building is approximately 14,000 to 15,000 square feet. The exterior walls are concrete frames with hollow clay tile infill. The walls are supported by a slab and stem wall connected to the concrete foundation. There are columns along the exterior wall at every other window pier, extending from the foundation to the roof and connecting to a perimeter beam (Figure 2). Based on the few sheets of as-built drawings available for review, the columns have minimal reinforcement and would likely need to be strengthened. The first floor is a 4-inch concrete slab with beams, raised on a stem wall to create a crawl space. The majority of the slab is reinforced with 3/8-inch square rods at 6 inches on center each way. The second-floor slab and roof slab are of similar construction. Hollow clay tile infill was used at the raised slabs between the concrete beams (Figure 5). In General Ward 40 and 50 (LACO Nos. 1185 and 1186) and possibly others, wood roof framing has been constructed on top of the concrete slab.

The interior walls are typically made of hollow clay tile, occasionally two wythes thick. The cavity walls are open above which provides some venting for the building (Figure 3)[1]. These vent openings in the slab occur in the first and second floors. In some General Ward buildings, additional partition walls were constructed of plaster over metal stud; these are not part of the original construction.

There is a concrete side ramp at each entrance to the building. Some of the buildings are connected by a hyphen, as shown in Figure 4. This building, LACO No. 1188, is not connected to other buildings. There are two interior stair accesses to the second floor, located at the front and rear entrances to the building. The stairs are solid concrete.

Condition Assessment

The following assessment discusses the existing conditions at all 5 General Ward buildings. The conditions are similar at each building, though the extent of damage varies somewhat. Only the first floor of each building was accessible for observation due to safety concerns. It is assumed that the second floor is in a state similar to the first.

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

Significant fire and water damage was noted in the General Ward buildings (Figure 6-Figure 7). In LACO No. 1184, 75% to 100% of the first floor has extensive fire damage. In LACO Nos. 1185 and 1186, standing water and/or water damage was observed (Figure 7). In LACO No. 1186, the entire ground floor appears to have standing water and water damage. Long term exposure to collected water on concrete is known to corrode reinforcement; the slabs may be weakened. LACO Nos. 1187 and 1188 appear to have the least damage but are still in poor condition (Figure 8 to Figure 10). Evidence of fire was not apparent in the areas observed at those two buildings.

Deterioration of concrete and plaster is apparent on the interior and exterior walls and ceilings, leaving the hollow clay tile exposed (Figure 11-Figure 12). Many of the interior walls are cracked, especially in LACO No. 1184. This cracking may be due to fires that have occurred in the buildings; heating of the wall material leads to expansion which can cause cracking.

If the building has suffered high temperatures from fire, additional testing will be required to investigate the condition and capacity of the existing floors, roof, walls, and ceiling. Where concrete slabs were exposed to fire for a prolonged period, the slab has likely weakened and may require replacement. In many places throughout the General Ward buildings, the capacity of the structure is visibly compromised. Many of the walls have large sections missing, as seen in Figure 6. The hollow clay tile ceiling is considered too brittle to provide adequate strength, and it presents a potential falling hazard which could cause injury and block egress. In the hallway of LACO No. 1184, the hollow clay tiles infilling the second floor have split in half; the bottom halves have fallen to the ground (Figure 5). Delamination has occurred at many of the concrete beams; the rebar is visible and rusted (Figure 13).

Raised roofing over wood framing was constructed over the concrete roof slab (Figure 14). This was probably done to provide roof slope for drainage. There is a roof vent housing, which occurs in LACO No. 1186 and some of the other buildings (Figure 15). The presence or absence of lateral bracing in the roof vent structure could not be ascertained from the visual inspection.

The first-floor concrete slab and columns at the crawl space were observed in 2007 and appeared to be in good condition at the time (Figure 16). They are likely in decent condition but should be checked for deterioration and strengthened if needed.

Cracks were found on the hyphens connecting buildings (Figure 17). Exposure to the elements and insufficient concrete cover has caused delamination, corrosion of the reinforcement and spalling of the concrete slab and beams at the hyphens (Figure 18). No seismic gap between the structures was observed, which may result in significant cracking and damage in the event of an earthquake, as each pair of connected buildings will move independently of each other.

Evaluation of Structural Performance

The information herein applies to the 5 General Ward buildings. The buildings have a good geometrical shape with no vertical discontinuities and no mass irregularities. However, there is insufficient lateral resistance to forces that would be expected during a moderate earthquake. A new lateral system will need to be installed to provide proper resistance. While a steel braced frame system would generally be recommended for this type of structure, the braces could obstruct the view through the windows. Since the windows of these buildings are an important character-defining feature of the property, even if the windows remain intact, an obstructed view would affect the historical significance and architectural appearance of the buildings. Therefore, the braced frame may not be appropriate for the retrofit of this set of buildings. A steel moment frame could be considered but would likely be too flexible compared to the existing building system, leading to significant damage in the case of a moderate earthquake. For these reasons, a concrete moment frame system is recommended to provide added lateral strength for the General Ward buildings. The concrete frames would be installed at the interior of the perimeter walls, with dowels connecting the new frame to the existing walls or columns.

The absence of seismic gaps between the buildings and their connecting structures may result in pounding during an earthquake. This is associated with a potential risk of falling hazards and partial collapse. Hollow clay tiles, pieces of concrete, and other items may fall during shaking, causing injury and blocking egress. Additionally, the inability for the structures to move independently could lead to damaged connections, compromising the gravity support system and the safety of anyone inside. For LACO Nos. 1184-1187, seismic joints should be installed between the hyphen and each building to better allow the structures to move independently from one another.

Based on methods typical of the time of construction, it is assumed the columns and column-beam connections are not properly reinforced. Additionally, deterioration of concrete was found throughout all 5 buildings, and the ASCE 41 in-plane shear quick check indicates a possible deficiency in wall strength.

Some areas of the slab reinforcing steel meet the ASCE 41 minimum requirements. However, the beams and column bar splicing, ties, and stirrup spacing do not meet the minimum ASCE 41 requirements. The floor and roof diaphragms are not directly connected to the concrete and masonry walls, and the hollow clay tile infill (at diaphragms and walls) cannot be assumed to carry any lateral strength due to the fragile, brittle nature of the material. It is unknown if the wall reinforcement is doweled into the foundation, a connection that would be essential to earthquake design. Hollow clay tiles were used extensively throughout the building, but they are expected to perform very poorly. These tiles are very brittle and vulnerable to collapse. They would likely provide little or no strength for lateral resistance. They also present a significant potential safety threat as they are expected to crack, break, and fall in the case of an earthquake, fire, or even prolonged use, which could cause injuries and block egress.

Summary of Proposed Upgrades

The expected seismic performance of this building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Install new concrete moment frames at the building perimeter. This retrofit approach is expected to be the best option for preserving the architectural appearance and character-defining features of the building. The new frames should be doweled to the interior side of the existing perimeter walls and/or columns.
- Install new concrete shear walls or concrete moment frames in the building interior to reduce stresses on existing walls. Depending on where these frames or walls need to be installed following analysis, some window or door openings may be partially or fully obstructed. The new frames or shear walls are likely to compromise any large open areas inside the building.
- Concrete footings would need to be installed beneath any new frames and new shear walls; the walls and/or frames would need to be properly connected into the footings.
- Shotcrete existing exterior walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the concrete to properly connect the existing wall to the shotcrete.
- Add a form of protective enclosure throughout the building where hollow clay tile (HCT) infill occurs, to mitigate potential falling hazards. Approximately 75% to 100% of the slabs (ceilings) consist of HCT infill, which may present a falling hazard. Enclosures to mitigate potential falling hazards from the ceiling HCT infill could include nets, mesh, or new plaster coverings. If shotcrete is applied to exterior walls, it can be

designed to provide similar protection to mitigate the potential falling hazards from the tiles at the exterior walls.

- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Approximately 75% to 100% of the building's interior walls consist of HCT. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other possible risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in the event of damage or collapse.

Diaphragm

- Strengthen connections between the concrete slab (diaphragm) and all existing lateral elements such as ties, drag beams, etc. Strengthen any existing connections between the diaphragm and the walls.
- Install new steel anchors between walls and diaphragm for out-of-plane forces. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace the deteriorated concrete. Patch and grout the reinforced concrete that appears to be spalling and cracking at the floor, roof, and walls. Some reinforcement appears severely corroded and may be structurally compromised; in these locations additional strengthening or remediation may be required.
- Apply moisture sealant as needed to the underside of the roof and floor to further protect reinforcement with inadequate concrete cover.
- Provide adequate roof drainage, to ensure minimal exposure to water at roof slab.
- Test and analyze all slabs; strengthen as needed.
- One or a combination of the following measures are suggested to mitigate spalling, cracking, and failure due to inadequate detailing of column-beam connections:
  - Shotcrete existing beams and columns to increase durability and strength. This could affect the appearance of some of the beamed ceilings identified as character-defining features on the buildings.
  - Surface coat the column-beam connection regions with fiber reinforced polymer (FRP) to minimize damage from rotation. This could affect the appearance of some of the beamed ceilings listed as character-defining features.
- Provide adequate lateral support for roof vent housing. This could be accomplished by either steel bracing or increasing the shear strength of the walls.
- Analyze the existing strength of structural elements exposed to fire, if any. Replace any elements that have significant loss of strength due to high temperatures.
- Encapsulate all hollow clay tile slabs, ceilings, and walls as described above.
- Additional bracing of the concrete parapets listed as a character-defining feature may also be required. This could likely be done on the interior side of the parapets only. Anchors would need to be drilled and installed into the existing concrete. The appearance of the interior elevation of the parapets would be affected; however, the exterior character-defining visual appearance would be maintained.

Figure 1: East elevation, LACO Nos. 1184 (right) through 1186 (left)

Figure 2: Exterior elevation (shown at LACO No. 1188)

Figure 3: Interior cavity wall (shown at LACO No. 1184)

Figure 4: Connecting hyphen between LACO Nos. 1184 and 1185

Figure 5: Broken hollow clay tile infill at second-floor slab; spalled concrete and exposed rebar at second-floor beams (shown at LACO No. 1184)

Figure 6: Fire damaged walls (shown at LACO No. 1186)

Figure 7: Standing water on interior slab (shown at LACO No. 1185)

Figure 8: Exterior wall condition (shown at LACO No. 1188)

Figure 9: Interior condition at LACO No. 1188

Figure 10: Interior hollow clay tile wall, shown at LACO No. 1188

Figure 11: Deteriorated plaster ceiling and exposed hollow clay tile (shown at LACO No. 1186)

Figure 12: Exterior wall condition with exposed hollow clay tile (shown at LACO No. 1186)

Figure 13: Delamination of concrete beam and exposed rebar (shown at LACO No. 1186)

Figure 14: Wood roof over concrete slab (shown at LACO No. 1186)

Figure 15: Roof vent housing (shown at LACO No. 1186)

Figure 16: Crawl space under first-floor slab (shown at LACO No. 1188)

Figure 17: Cracking and deterioration at the hyphen connecting LACO No. 1184 and 1185

Figure 18: Fallen ceiling, delamination of concrete slab and beams at the hyphen connecting LACO No. 1184 and 1185

C LACO No. 1188 (General Ward 70) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

General Ward 70 (LACO 1188)

.

MGAC

Feasibility Study Cost Plan — General Ward 70 (LACO 1188)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 70 (LACO 1188)		14,644	495.49	7,256
SUB-TOTAL BUILDING CONSTRUCTION			14,644	495.49	7,256
S1	Sitework		5,000	88.80	444
	Premium for enhanced sustainable site features				116
SUB-TOTAL SITEWORK					560
TOTAL BUILDING AND SITEWORK					**7,816**
Escalation to Midpoint (Jul 2021)		11.7%			912
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			698
	Project Management Consultant Services	3.0%			283
	FF & E	5.8%			563
	Taxes and Indirect Fees	1.0%			103
	Building Permit and Other Agency Fees	1.5%			156
	Owner Contingency/Construction Contingency	25.0%			2,633
Recommended Budget					***13,164***

Feasibility Study Cost Plan — General Ward 70 (LACO 1188) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	7,322		
Level 2	7,322		
TOTAL GROSS FLOOR AREA	**14,644**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		2	EA	0.137
Gross Area		14,644	SF	1.000
Enclosed Area		14,644	SF	1.000
Footprint Area		7,322	SF	0.500
Volume		226,982	CF	15.500
Gross Wall Area		10,300	SF	0.703
Finished Wall Area		10,300	SF	0.703
Windows or Glazing	27%	2,800	SF	0.191
Roof Area - Flat		7,322	SF	0.500
Roof Area - Total		7,322	SF	0.500
Interior Partitions		530	LF	0.036
Finished Area		14,644	SF	1.000

MGAC

Feasibility Study Cost Plan — General Ward 70 (LACO 1188) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	14,644 SF	
A10	Foundations		3%	13.67	200
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	13.67	200
B10	Superstructure		13%	64.29	941
B20	Exterior Enclosure		9%	42.31	620
B30	Roofing		2%	12.25	179
B	Shell		24%	118.85	1,740
C10	Interior Construction		3%	14.28	209
C20	Stairways		0%	2.05	30
C30	Interior Finishes		10%	48.14	705
C	Interiors		13%	64.46	944
D10	Conveying Systems		1%	6.83	100
D20	Plumbing Systems		4%	20.79	305
D30	Heating, Ventilation & Air Cond.		10%	50.26	736
D40	Fire Protection		1%	7.00	103
D50	Elect'l Lighting, Power & Comm.		17%	83.15	1,218
D	Services		34%	168.03	2,461
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	10.41	152
E	Equipment & Furnishings		2%	10.41	152
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	12.60	184
F	Special Construction & Demolition		3%	12.60	184
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	388.02	5,682
Z10	Design Contingency	10.00%	8%	38.80	568
Z11	General Requirements	4.00%	3%	17.07	250
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	443.89	6,500
Z21	General Conditions	6.00%	5%	26.63	390
Z22	Bonds & Insurance	1.50%	1%	7.06	103
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	17.91	262
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	495.49	7,256
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	495.49	7,256

MGAC

Feasibility Study Cost Plan — General Ward 70 (LACO 1188)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				113,220
Foundation upgrade	7,322	SF	10.00	73,220
New elevator pit	1	LS	40,000.00	40,000
A1030 Slab On Grade				87,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	2,900	SF	30.00	87,000
Remove/replace ramp including railings				*site*
				200,220
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				795,040
Strengthen connections between floors and lateral elements	7,322	SF	10.00	73,220
Install new moment frames at the building perimeter	14,644	SF	30.00	439,320
Elevator corewalls	1,300	SF	75.00	97,500
Patch/repair damaged suspended slab, allow 50%	3,700	SF	50.00	185,000
Lightweight concrete topping, 1-1/2"				*n/a*
B1020 Roof Construction				146,440
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	7,322	SF	20.00	146,440
				941,480

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				288,400
Patch, repair plaster exterior walls, allow 40%	4,120	SF	30.00	123,600
Painting to exterior walls	10,300	SF	3.00	30,900
Loose fill insulation				*n/a*
Patch, plaster and repaint interior face of exterior walls	10,300	SF	13.00	133,900
B2020 Exterior Windows				319,200
Strip and remove rust, retrofit existing wood framed windows, replace hardware, install new high performance glazing	2,240	SF	110.00	246,400
New windows similar kind, high performance glazing, allow 20%	560	SF	130.00	72,800
B2030 Exterior Doors				12,000
New exterior doors	4	EA	3,000.00	12,000
				619,600
B30 Roofing				
B3010 Roof Coverings				179,389
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	7,322	SF	24.50	179,389
				179,389
C10 Interior Construction				
C1010 Partitions				84,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	2,100	SF	40.00	84,000
C1020 Interior Doors				34,500
New wood doors including frames and hardware	15	EA	2,300.00	34,500

	Quantity	Unit	Rate	Total
C1030 Fittings				90,576
Toilet partitions and accessories	16	EA	2,000.00	32,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	14,644	SF	4.00	58,576
				209,076
C20 Stairways				
C2010 Stair Construction				20,000
Repair/repaint existing stairs and railing	2	EA	10,000.00	20,000
C2020 Stair Finishes				10,000
New stair finishes	2	EA	5,000.00	10,000
				30,000
C30 Interior Finishes				
C3010 Wall Finishes				78,290
Patch/repair wall plaster, allow 30%	3,000	SF	14.00	42,000
Painting to interior partitions	10,600	SF	1.25	13,250
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
C3020 Floor Finishes				114,065
Patch/repair existing floor finish including base, allow 75%	10,944	SF	10.00	109,440
Existing to remain, allow for cleaning, allow 25%	3,700	SF	1.25	4,625
C3030 Ceiling Finishes				512,540
New gypsum plaster ceiling on wood lathe	14,644	SF	35.00	512,540
				704,895

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
D1010 Elevators & Lifts				100,000
Passenger elevator, 2 stops	1	EA	100,000.00	100,000
				100,000
D20 Plumbing Systems				
D2010 Plumbing Fixtures				48,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	24	EA	2,000.00	48,000
D2020 Domestic Water Distribution				82,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	24	EA	3,000.00	72,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
D2030 Sanitary Waste				115,932
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	14,644	SF	2.00	29,288
Condensate drainage pipework, fittings, < = 1-1/2", insulated	14,644	SF	1.00	14,644
Waste, vent, fittings, < = 6"	24	EA	3,000.00	72,000
D2040 Rain Water Drainage				43,932
Surface water drainage				
Roof & overflow drains, < = 6"	14,644	SF	3.00	43,932
D2090 Other Plumbing Systems				14,644
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	14,644.00	14,644
				304,508

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				156,993
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	650	mbth	27.50	17,875
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	14,644	SF	1.50	21,966
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	14,644	SF	8.00	117,152
D3040 Distribution Systems				332,693
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	18,305	LB	12.00	219,660
Dampers	1	LS	21,966.00	21,966
Insulation	13,729	SF	4.50	61,779
Diffusers, registers and grilles	14,644	SF	2.00	29,288
D3050 Terminal & Package Units				154,644
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	15	EA	1,000.00	14,644
D3060 Controls and Instrumentation				65,898
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	14,644	SF	4.50	65,898
D3070 Systems Testing & Balancing				21,966
Test and balance air systems	14,644	SF	1.50	21,966

	Quantity	Unit	Rate	Total
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				735,944
D40 Fire Protection				
D4010 Sprinklers				102,508
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	14,644	SF	7.00	102,508
				102,508
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				302,379
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,200	AM	65.00	78,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels	20	KW	5,000.00	100,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	14,644	SF	3.50	51,254
D5020 Lighting & Branch Wiring				585,760
User convenience power				
Panel board breakers, 120 V circuits	14,644	SF	2.00	29,288
Receptacles, including conduit and cable	14,644	SF	5.50	80,542

	Quantity	Unit	Rate	Total
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	14,644	SF	27.50	402,710
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	14,644	SF	5.00	73,220
D5030 Communications & Security				205,016
Telephone and communications				
Telephone/data - including conduit & cable	14,644	SF	6.50	95,186
WAP	14,644	SF	1.00	14,644
DAS - Emergency response & cellular	14,644	SF	4.00	58,576
Cable tray/wire-way/j-hooks	14,644	SF	1.00	14,644
Audiovisual rough-in	14,644	SF	1.50	21,966
D5090 Other Electrical Systems				124,474
Fire alarm systems	14,644	SF	4.50	65,898
Security - perimeter access control & CCTV surveillance	14,644	SF	4.00	58,576
				1,217,629
E10 Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				152,400
Cabinets, countertops shelving and millwork	100	LF	1,000.00	100,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	2,800	SF	15.00	42,000
Entrance mat	1	LS	5,000.00	5,000
				152,400

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				74,634
Selective demolition				
Exterior window	560	SF	5.00	2,800
Doors	4	EA	150.00	600
Roofing including roof sheathing	7,322	SF	2.00	14,644
Demo/remove 75% of existing partitions	6,400		3.00	19,200
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	14,644	SF	2.50	36,610
Allow for clearing/removal of storage debris	12	MH	65.00	780
F2020 Hazardous Components Abatement				109,830
Hazmat abatement - allowance	14,644	SF	7.50	109,830
				184,464

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - General Ward 70 (LACO 1188)				
Gross Site Area	12,300	SF		
Building footprint	7,322	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	25.00	125,000
Premium for permeable paving	2,500	SF	13.00	32,500
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	5,000	SF	6.00	30,000
Site Utilities	5,000	SF	25.00	125,000
Alternate Cost Before Markups				**347,500**
Z10 Design Contingency	10.00%			34,750
Z11 General Requirements	4.00%			15,290
Z21 General Conditions	6.00%			23,852
Z22 Bonds & Insurance	1.50%			6,321
Z23 Contractor's Overhead, Profit & Fee	3.75%			16,039
				443,753

D LACO No. 1188 (General Ward 70) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
General Ward 70 #1188

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the General Ward 70 (LACO #1188) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for General Ward 70 #1188 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for General Ward 70 (LACO #1188), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction system. Provide rain leader extensions to*

		take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations*

		• *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department*

		Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*

UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage

		• pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Entry elevations windows covered in plywood and entry porch	
2	North elevation windows needing plywood	
3	Interior condition.	

E LACO No. 1188 (General Ward 70) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

General Ward 70 (LACO 1188)

MGAC

Mothballing Cost Plan — General Ward 70 (LACO 1188)

			SF	$/SF	TOTAL $ x 1,000
B1	General Ward 70 (LACO 1188)		14,644	23.63	346
TOTAL BUILDING CONSTRUCTION			14,644	23.63	346
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**346**
Escalation to Midpoint (Jul 2021)		11.7%			40
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			15
	Project Management Consultant Services	2.0%			8
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			4
	Building Permit and Other Agency Fees	1.5%			6
	Owner Contingency/Construction Contingency	10.0%			42
Recommended Budget					***461***

MGAC

Mothballing Cost Plan — General Ward 70 (LACO 1188)

Item Description	Quantity	Unit	Rate	Total
1.) General Ward 70 (LACO 1188)				
No of floors	***2***	***EA***		
Gross Floor Area	***14,644***	***SF***		
Gross Wall Area	***10,300***	***SF***		
Roof Area	***7,307***	***SF***		
Windows Area	***2,800***	***SF***		
Gross Site Area	***12,300***	***SF***		
Building footprint	***7,307***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	14,644	SF	1.50	21,966
Repaint exterior walls	10,300	SF	2.00	20,600
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	2,800	SF	25.00	70,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	10,300	SF	0.10	1,030
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	7,307	SF	15.00	109,605
Termites, ants, rodents etc - inspection and allowance for treatment	14,644	SF	0.25	3,661
Install smoke & fire detectors including wiring	14,644	SF	1.00	14,644
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	5	EA	275.00	1,375
Remove debris and broom clean	14,644	SF	0.75	10,983
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**269,064**
Z10 Design Contingency	15.00%			40,360
Z11 General Requirements	3.00%			9,283
Z21 General Conditions	3.00%			9,561
Z22 Bonds & Insurance	1.50%			4,924
Z23 Contractor's Overhead, Profit & Fee	3.75%			12,495
				345,686

Feasibility Study Reports for LACO No. 1193 (Patient Ward 205)

Secondary Contributor

ESA

A LACO No. 1193 (Patient Ward 205) – Architectural Assessment Report

Patient Ward 205 (LACO 1193)

5,583 s.f.
Built 1926
Secondary Contributor to Historic District

Building Description

One of eleven nearly identical buildings, Patient ward 205 (LACO No. 1193) is located in the middle of a row of nine patient wards that spans the block of Descanso Street. A continuous veranda along the Descanso Street elevations is the focal point of the grouping. Two additional patient wards are located west of Laurel Street. Patient Ward 205 is a one-story, asymmetrical in appearance, and vernacular in design. It is rectangular in plan and subsequently longer than it is wide. The wood-framed building is capped by a high-pitched, front-gable-on-hip roof with moderately over-hanging eaves, exposed rafter tails, and triangular brace supports. Composition shingles cover the roof. A gable projection is located at the south end of the west elevation roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. Triangular dormer vents and skylights are located on the east and west elevations. The building sits on a concrete slab foundation, and the exterior walls are reinforced concrete covered in smooth stucco. The primary entrance faces south onto the veranda, which is characterized by a raised concrete foundation, a shed roof with exposed beams and trusses, square wood posts, and iron pipe railings. Plain wood trim with extended lintels frame the entry, whose original door has been replaced by a non-original metal door. A full-length, wood-framed, screened porch on the east elevation, capped by a shed roof projection, was enclosed to provide additional ward space. A secondary entrance, accessed by a concrete stoop, is located on the rear elevation; the rear door is also a metal replacement. Original fenestration on all elevations can generally described as bands of original wood-frame, one-over-one, double-hung sash windows with transoms, irregularly arranged, whose plain wood casings are characterized by slightly extended lintels. Also present are wood-frame one-light hopper windows with transoms and double-casement windows. Wood slat awnings have been added to west-facing windows. Concrete ramps and staircases with iron pipe railings provide access to the building.[1]

Statement of Significance

The significance of LACO No. 1193 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> Patient Ward 205 (LACO No. 1193) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to

1 [1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 205 (LACO No. 1193),* prepared for the County of Los Angeles June 2, 2008.

1952. The building was erected in 1926 during a large building initiative in the 1920s under the Los Angeles County Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933-1952). Thirteen patient wards were constructed between 1923 and 1928 to treat chronically ill patients, marking the evolution of the mission of the County Farm from the housing and care of indigents to a long-term hospital facility. This building is one of the eleven extant examples of this property type in the Historic District. Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. A vernacular style building, it retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features: horizontal-massing and rectangular plan; continuous veranda on a raised foundation; high-pitched complex roof consisting of gable and hipped projections; linear bands of windows; and projecting screened porches. Its setting has been altered through the loss of westernmost two of the original ward buildings in the late 1990s, and the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

2 [2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 205 (LACO No. 1193),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **6,200 s.f. Approx. per building,** • **82,000 for all patient wards and veranda.**
• **Covered veranda –** Wood joists are deteriorated. Railing in need of replacement.	• **1,630 at each building**
• **Exterior walls –** Exterior wood siding is damaged in minimal amount of areas. It is repairable in most areas.	• **3,700 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **52 wood windows** • **4 exterior doors** • **Per building**

Interior spaces – Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining. The original screen porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However,	• **5,583 s.f.**

water damage to the flooring was observed as well as visible standing water on flooring materials.	
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Original covered screen porch has been enclosed; however, some walls are vandalized and damaged.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **5,583 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

Character Defining features	
• **Roofing –** Replace entire composition shingle roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **5,583 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **3,700 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window	• **52 wood windows**

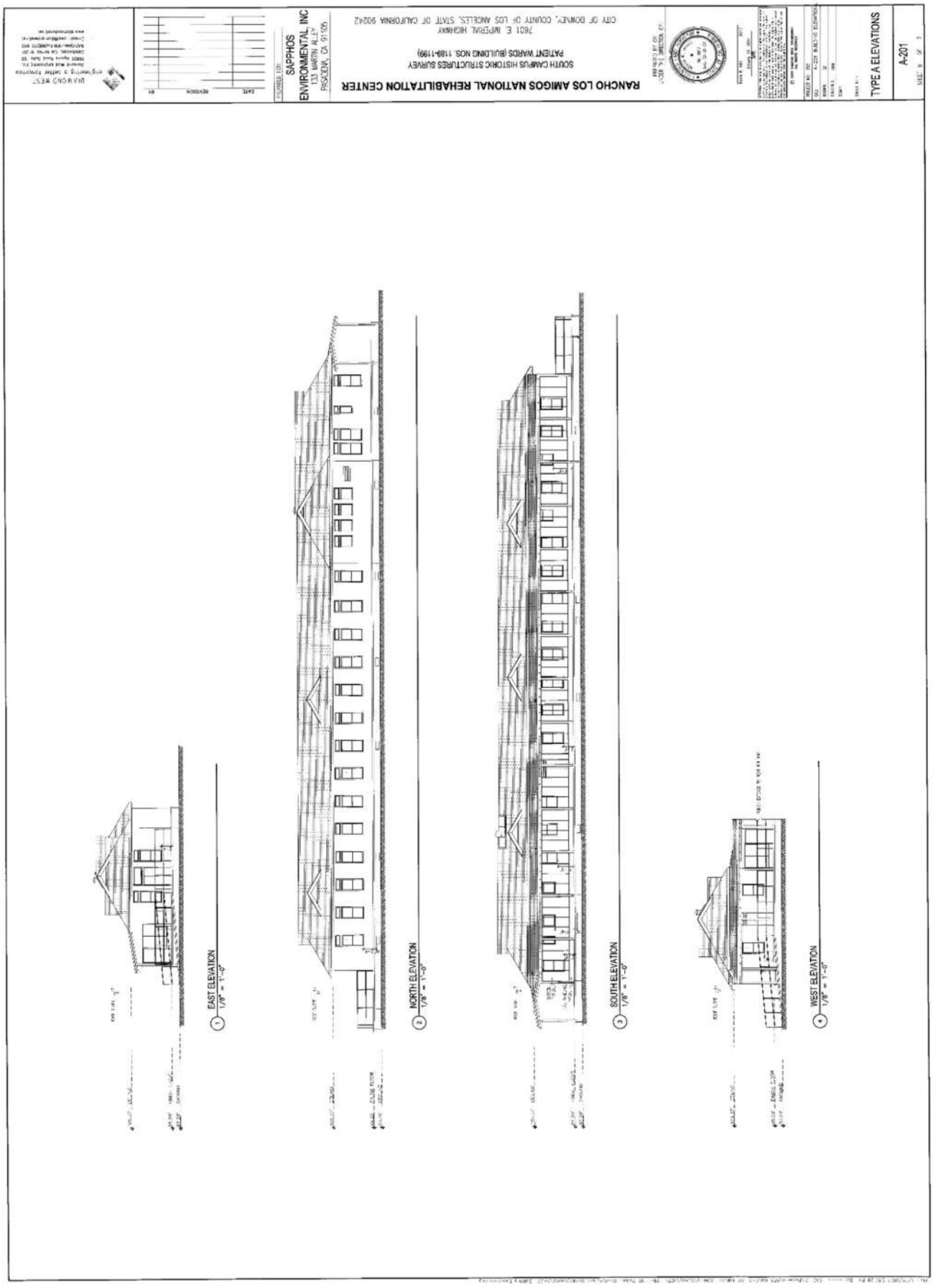
hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **5,000 s.f. courtyard.** • **8 totals for 40,000 s.f.**

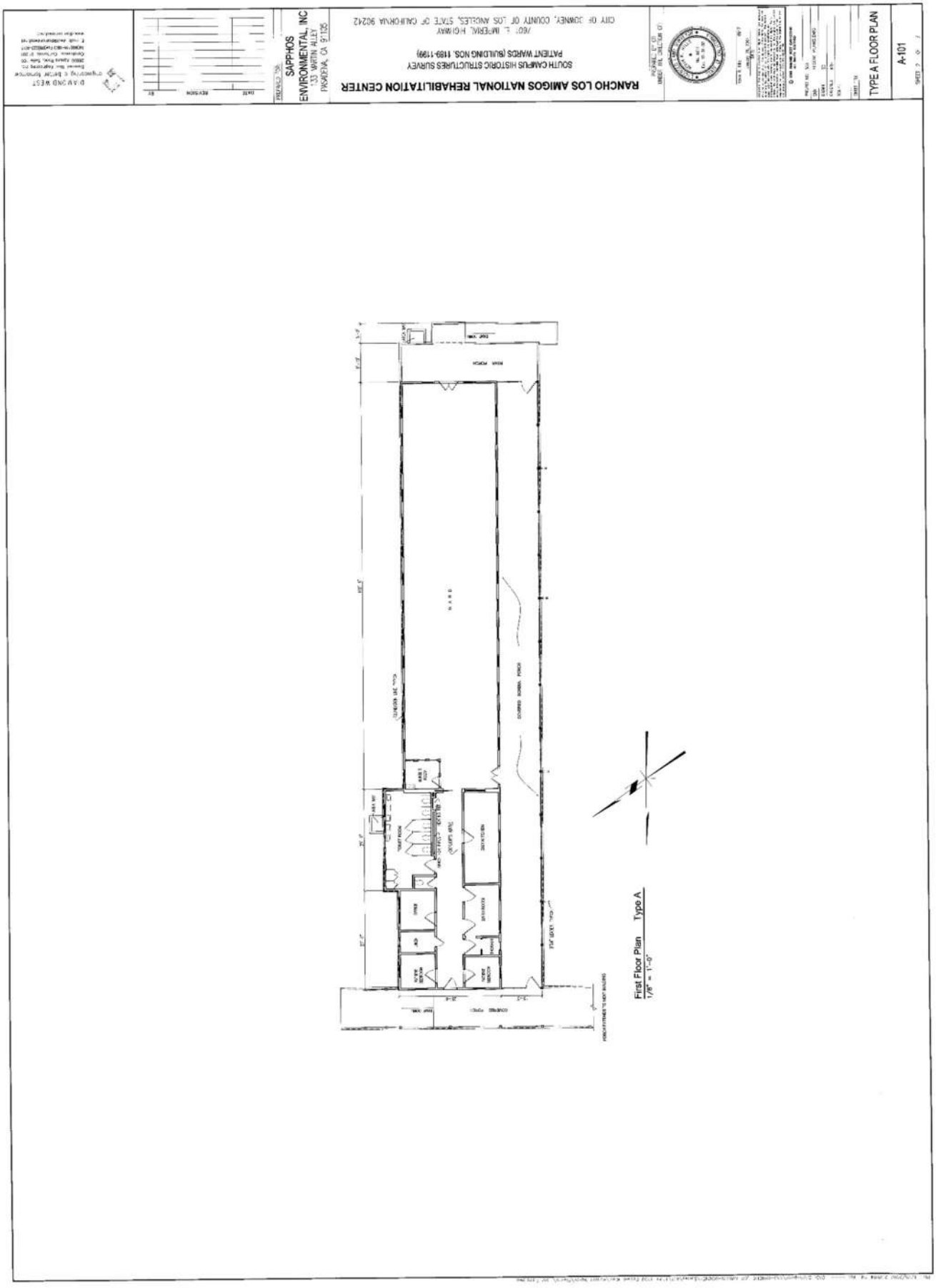
Interior Spaces

It is assumed that this 5,583 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **5,583 s.f.**
• **Walls –** Remove paint from masonry and all damaged plaster, repair in-kind per Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **5,593 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	

• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restrooms-2 stalls, one sink per sex. 240 s.f. total.**
• **Electrical** – Provide new 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in rear location and provide with new railings and new maximum slope of 8%	

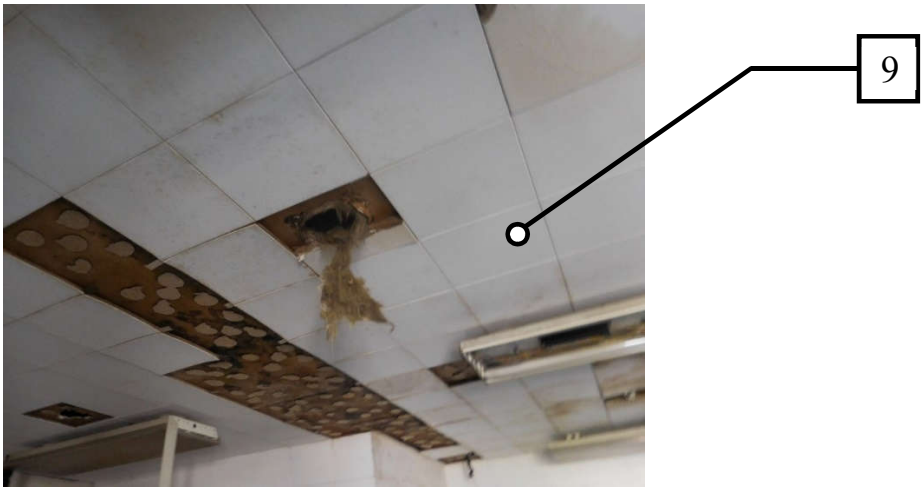

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATTENT WARDS (BUILDING NOS. 1188-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
133 NORTH ALTA
PASADENA, CA. 91105
TYPE A ELEVATIONS
A-201
EAST ELEVATION
1/8" = 1'-0"
NORTH ELEVATION
1/8" = 1'-0"
SOUTH ELEVATION
1/8" = 1'-0"
WEST ELEVATION
1/8" = 1'-0"


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1199)
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
7601 E. IMPERIAL HIGHWAY
SAPPHOS ENVIRONMENTAL, INC
TYPE A FLOOR PLAN
A-101
First Floor Plan Type A
1/8" = 1'-0"

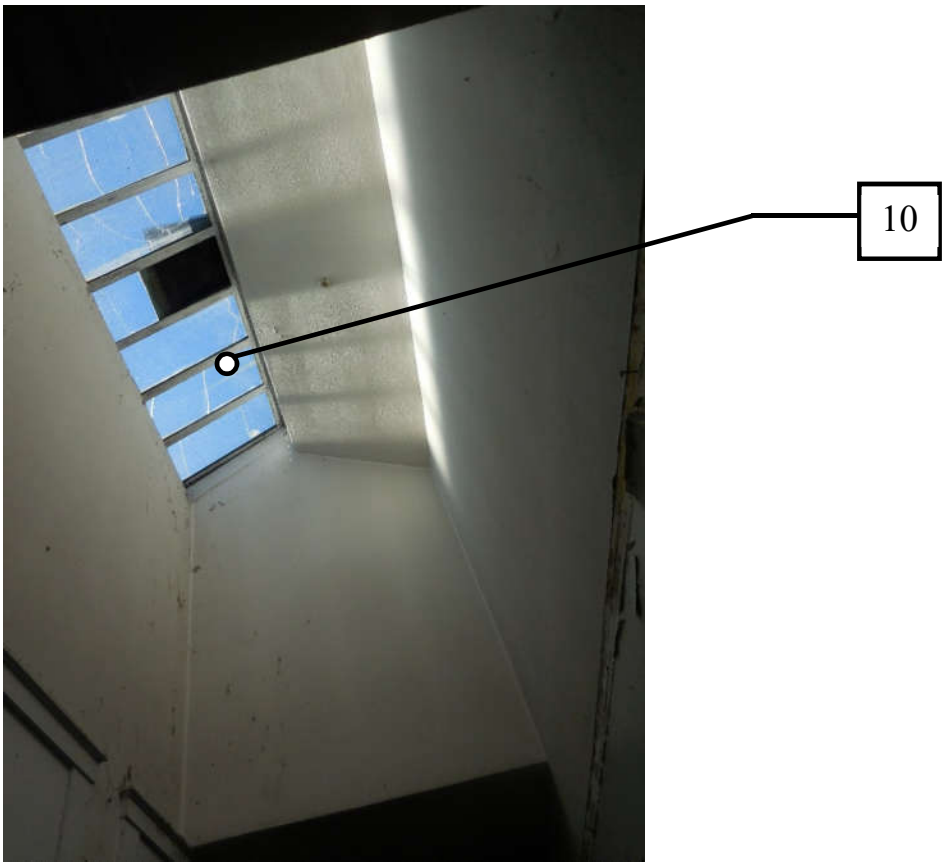
South Elevation with Veranda

Courtyard Elevation

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood membranes, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.



Interior Asbestos Ceiling Tiles



Hallway Skylight

9. Remove non-contributing ceiling assembly.
10. Repair existing skylight

B LACO No. 1193 (Patient Ward 205) – Structural Assessment Report

Structural Assessment: Patient Ward Building 205
(LACO NO. 1193)

Summary of Assessment
This building was constructed between 1923-1928, as part of a set of Patient Ward buildings. This report describes conditions representative of the entire set of buildings, and the suggested upgrades are recommended for the set as a whole. Some of the original plans were available for review. The Patient Ward buildings are single-story wood structures on concrete slabs and foundations with a 10-foot ceiling height. The walls are constructed of plaster over wood lath, a type of construction that is no longer used. The buildings contain numerous structural members that are deteriorated and may pose a threat to the buildings and their occupants in the event of a seismically induced ground movement.

This building is in poor condition. Deterioration and damage were observed throughout the structure, particularly in the roof framing and sheathing. Additionally, the building does not appear to have an adequate lateral force resisting system. Strengthening and new connections will be needed throughout the building, including at the roof, walls, foundation, and veranda. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this Patient Ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building
The typical building footprint is approximately 163 feet by 34 feet with the longer dimension running north-south. The gable roofing is composed of a shingle roof over ½-inch by 4-inch straight sheathing on 2 x 6 rafters at 24 inches on center. The roof rafters and ceiling joists are tied together with 2x web members to form field-constructed carpenter trusses at 24 inches on center.

The exterior walls around the main building supports are made of stucco plaster over metal lath on 2 x 4 wood studs. The interior walls are 2x wood stud walls with wood lath and plaster. The building has a raised wood floor consisting of wood framing with wood plank flooring. Water damage has likely deteriorated the floor framing in many areas, and a large portion of the framing will likely need to be replaced. The floor is supported on interior concrete pedestals and footings which create a 30-inch open crawl space. The exterior walls are supported by a continuous foundation.

Condition Assessment
The wood framing of these structures generally appears to be in poor condition. A large portion of existing wood elements may need replacement, repair, or strengthening. Deterioration of wood members exists in many areas where the floor, walls, and roof are exposed. Broken floor, wall, and roof sheathing was also observed in some places, as shown in Figure 1 through 4. There is some ceiling and wall damage due to water leaks; the wood members inside the ceiling and wall are likely damaged in these areas. The exposed rafters show a clear sign of decay, as seen in Figure 5[1]. Visual inspection revealed that some of the rafters are also heavily damaged. Figure 6 shows the deterioration of the external wall trim and paneling due to long-term exposure to the elements.

The ceilings are typically wood lath and plaster, which is heavy and subject to weakening due to prolonged moisture. Some rooms have ceiling tiles glued to drywall. Both types of ceiling pose a potential falling hazard, as the heavy plaster or the ceiling tiles could fall, cause injury, and block egress in a seismic event. In many areas, large portions

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

of ceiling or full tiles have already detached from the building. The ceilings should be completely removed and replaced.

Figure 7 shows major cracks found on the west side of one of the Patient Ward buildings. Moreover, reinforcement exposed by delamination of concrete was noticed at a porch foundation, as shown in Figure 8. The deterioration shown in these photos is typical for the set of buildings.

The veranda structure, which provides a walkway connecting the front entrances of all the Patient Ward buildings, also has signs of deterioration. The fascia at each side is completely deteriorated, as shown in Figure 9, and much of the wood framing for the veranda roof displays signs of dry rot, as shown in Figure 10. It is likely that 50 to 100% of the framing will need to be replaced. The veranda roof is supported on 6 x 6 wood posts on each side of the walkway. As seen in Figure 11, it is apparent that the posts have been exposed to severe weather conditions, and in some cases, are badly damaged at the base.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. The building's light-weight construction significantly reduces the forces and stresses induced on the building during an earthquake. This is likely the reason why the Patient Ward buildings appear to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, these buildings would be expected to perform below the life-safety standard. The existing roof and wall construction can withstand very little lateral force. In addition, the cripple wall below the floor will be subjected to a high amount of movement and shear stress.

Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

The cracks and delamination of concrete at the foundation are not expected to significantly compromise the integrity of the building. The concrete foundation appears to be in fair condition for a building of this age.

There are several concerns with the veranda at the south side of the buildings. The deterioration of the posts will likely continue, which could lead to partial collapse even without a seismic event. The posts are not positively connected to the roof or the foundation, as shown in Figure 12 and 13, which, in the event of an earthquake, could cause the structure to separate and may lead to collapse. Additionally, the veranda structure and the Patient Ward buildings will likely try to move independently from each other, but the veranda is currently attached to all buildings. This connection between the veranda and the buildings could lead to damaged roof framing and potential falling hazards and safety risks. A seismic separation should be added at each building (adding a new post adjacent to the separation to support the veranda roof as depicted in Figure 14), and the posts should be bolted to the roof and foundation.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be needed at every wall. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning

north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Add a series of cantilevered steel columns at the sun porch to vertically and laterally support the roof framing and maintain the character-defining full-height windows. The new cantilevered columns will require new concrete caisson footings.
- Steel shear panels or new plywood sheathing will need to be added to all exterior walls (other than the sun porch outer wall) and to all interior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new cripple wall supports and new shallow foundations.
- Add hold downs at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove (and replace) existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace deteriorated wood members (roof and wall framing) as needed.
- Install concrete pier supports as needed beneath interior bearing walls.
- Replace wood flooring where holes or damage occur.
- Remove and replace plaster ceilings and ceiling tiles.
- Repair floor where differential settlement has led to deformed or broken framing.
- Upgrade foundations throughout the building.

Veranda

- Replace the fascia.
- Replace any roof framing damaged by dry rot, termites, or other causes. It is likely that 40 to 80% of the framing will need to be replaced.
- Replace posts with steel cantilever columns (wrapped with wood finish). Provide bolted connections to foundation and veranda roof.
- Provide expansion joints in the veranda between buildings (See Figure 14).
    - Provide shoring to temporarily support the structure while joints are created.
    - Cut a joint across the width of the veranda roof and add a secondary post near the joint at the north side. Eight joints and new posts total are expected.
- Disconnect the existing handrails from the wood posts; provide new handrail support to slab or to new posts.

Figure 1: Damaged roof structure

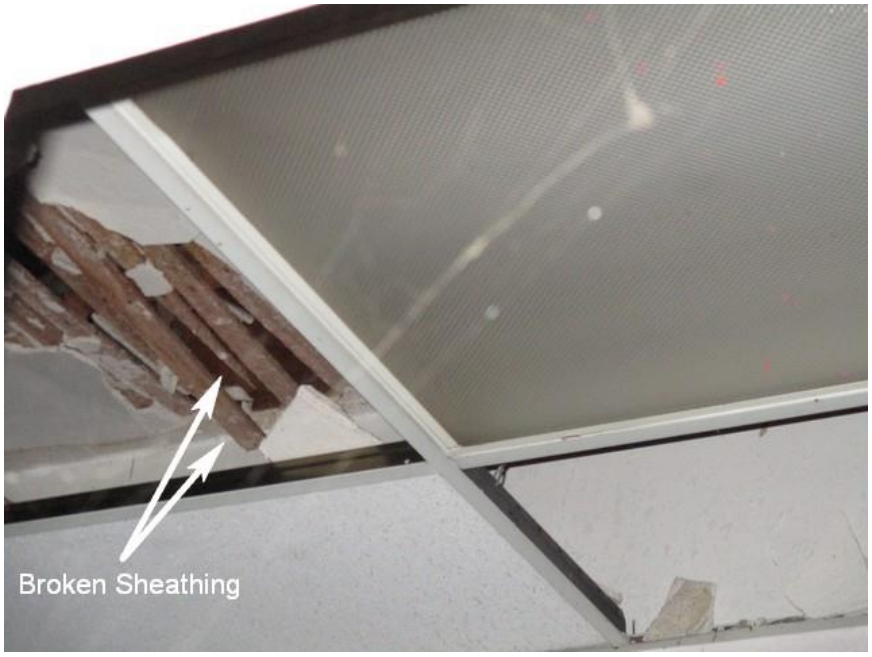


Figure 2: Fallen ceiling and damaged sheathing

Figure 3: Broken floor sheathing

Figure 4: Damaged wood lath and plaster wall (interior)

Figure 5: Decay of exposed rafters

Figure 6: Deterioration of exterior trim and paneling

Figure 7: Foundation cracks

Figure 8: Exposed rebar at crawl space

Figure 9: Fully deteriorated fascia at veranda

Figure 10: Deterioration and dry rot of veranda roof framing

Figure 11: Deteriorated post base

Figure 12: Lack of connection between post base and foundation

Figure 13: Lack of connection between post and roof framing

Figure 14: Recommended seismic joint upgrades at veranda

C LACO No. 1193 (Patient Ward 205) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Patient Ward 205 (LACO 1193)

MGAC

Feasibility Study Cost Plan — Patient Ward 205 (LACO 1193)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 205 (LACO 1193)		5,583	464.80	2,595
SUB-TOTAL BUILDING CONSTRUCTION			5,583	464.80	2,595
S1	Sitework		5,000	83.00	415
	Premium for enhanced sustainable site features				45
SUB-TOTAL SITEWORK					460
TOTAL BUILDING AND SITEWORK					**3,055**
Escalation to Midpoint (Jul 2021)		11.7%			356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			273
	Project Management Consultant Services	3.0%			111
	FF & E	5.8%			220
	Taxes and Indirect Fees	1.0%			40
	Building Permit and Other Agency Fees	1.5%			61
	Owner Contingency/Construction Contingency	25.0%			1,029
Recommended Budget					***5,145***

MGAC

Feasibility Study Cost Plan — Patient Ward 205 (LACO 1193) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,583		
TOTAL GROSS FLOOR AREA	**5,583**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.179
Gross Area		5,583	SF	1.000
Enclosed Area		5,583	SF	1.000
Covered Area		1,630	SF	0.292
Footprint Area		5,583	SF	1.000
Gross Wall Area		3,700	SF	0.663
Finished Wall Area		3,700	SF	0.663
Windows or Glazing	30%	1,100	SF	0.197
Roof Area - Sloping		6,200	SF	1.111
Roof Area - Total		6,200	SF	1.111
Roof Glazing Area		50	SF	0.009
Interior Partitions		185	LF	0.033
Finished Area		5,583	SF	1.000

MGAC

Feasibility Study Cost Plan — Patient Ward 205 (LACO 1193) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,583 SF	
A10	Foundations		2%	10.00	56
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	56
B10	Superstructure		7%	34.16	191
B20	Exterior Enclosure		11%	48.84	273
B30	Roofing		5%	25.22	141
B	Shell		23%	108.23	604
C10	Interior Construction		2%	11.43	64
C20	Stairways		0%	0.00	0
C30	Interior Finishes		10%	45.85	256
C	Interiors		12%	57.28	320
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.58	109
D30	Heating, Ventilation & Air Cond.		10%	47.20	264
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		18%	81.43	455
D	Services		33%	155.21	867
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	19.61	110
E	Equipment & Furnishings		4%	19.61	110
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	13.66	76
F	Special Construction & Demolition		3%	13.66	76
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	363.99	2,032
Z10	Design Contingency	10.00%	8%	36.40	203
Z11	General Requirements	4.00%	3%	16.02	89
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	416.41	2,325
Z21	General Conditions	6.00%	5%	24.98	139
Z22	Bonds & Insurance	1.50%	1%	6.62	37
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.80	94
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	464.82	2,595
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	464.80	2,595

MGAC

Feasibility Study Cost Plan — Patient Ward 205 (LACO 1193)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				55,830
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	5,583	SF	10.00	55,830
A1030 Slab On Grade				
				55,830
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				43,541
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 10%	600	SF	40.00	24,000
Lightweight concrete topping, 1 1/2"	5,583	SF	3.50	19,541
B1020 Roof Construction				147,200
Repair/replace deteriorated roof structure; allow 50%	3,100	SF	30.00	93,000
Strengthen wall and diaphragm connection, provide new roof sheathing	6,200	SF	8.50	52,700
Provide expansion joints between veranda and building	1	LS	1,500.00	1,500
				190,741

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				148,000
Strengthening of existing exterior walls; add shear panels to interior and exterior	3,700	SF	7.00	25,900
Weather barrier at exterior walls	3,700	SF	2.50	9,250
Plaster and repaint throughout exterior walls	3,700	SF	14.00	51,800
Plaster and repaint throughout interior face of exterior walls	3,700	SF	13.00	48,100
Loose fill insulation	3,700	SF	3.50	12,950
Veranda				*Sitework*
B2020 Exterior Windows				115,500
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	825	SF	100.00	82,500
New windows similar kind, high performance glazing; allow 25%	275	SF	120.00	33,000
B2030 Exterior Doors				9,200
New exterior doors	4	EA	2,300.00	9,200
				272,700
B30 Roofing				
B3010 Roof Coverings				133,300
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	6,200	SF	21.50	133,300
B3020 Roof Openings				7,500
Repair existing skylight framing, allow for new glazing and sealant	50	SF	150.00	7,500
				140,800

Feasibility Study Cost Plan — Patient Ward 205 (LACO 1193)

	Quantity	Unit	Rate	Total
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000
C1020 Interior Doors				21,500
New wood doors including frames and hardware	10	EA	2,150.00	21,500
C1030 Fittings				30,332
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,583	SF	4.00	22,332
				63,832
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				21,500
Repair damaged wall plaster and repaint - interior partitions, allow 30%	1,100	SF	13.00	14,300
Ceramic wall tiles to toilets	400	SF	18.00	7,200
C3020 Floor Finishes				39,081
New floor finishes including base	5,583	SF	7.00	39,081
Repair existing flooring				*n/a*
C3030 Ceiling Finishes				195,405
New gypsum plaster ceiling	5,583	SF	35.00	195,405
				255,986

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
				0
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				30,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	3,750.00	3,750
D2030 Sanitary Waste				40,749
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,583	SF	2.00	11,166
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,583	SF	1.00	5,583
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,749
Surface water drainage				
Roof & overflow drains, < = 6"	5,583	SF	3.00	16,749
D2090 Other Plumbing Systems				5,583
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,583.00	5,583
				109,331

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				60,601
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	275	mbth	27.50	7,563
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,583	SF	1.50	8,375
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,583	SF	8.00	44,664
D3040 Distribution Systems				126,839
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,979	LB	12.00	83,745
Dampers	1	LS	8,374.50	8,375
Insulation	5,234	SF	4.50	23,553
Diffusers, registers and grilles	5,583	SF	2.00	11,166
D3050 Terminal & Package Units				40,583
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,583
D3060 Controls and Instrumentation				25,124
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,583	SF	4.50	25,124
D3070 Systems Testing & Balancing				8,375
Test and balance air systems	5,583	SF	1.50	8,375
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				263,521

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				39,081
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,583	SF	7.00	39,081
				39,081
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				105,666
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	35	kVA	975.00	34,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,583	SF	3.50	19,541
D5020 Lighting & Branch Wiring				223,320
User convenience power				
Panel board breakers, 120 V circuits	5,583	SF	2.00	11,166
Receptacles, including conduit and cable	5,583	SF	5.50	30,707
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,583	SF	27.50	153,533

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,583	SF	5.00	27,915
D5030 Communications & Security				78,162
Telephone and communications				
Telephone/data - including conduit & cable	5,583	SF	6.50	36,290
WAP	5,583	SF	1.00	5,583
DAS - Emergency response & cellular	5,583	SF	4.00	22,332
Cable tray/wire-way/j-hooks	5,583	SF	1.00	5,583
Audiovisual rough-in	5,583	SF	1.50	8,375
D5090 Other Electrical Systems				47,456
Fire alarm systems	5,583	SF	4.50	25,124
Security - perimeter access control & CCTV surveillance	5,583	SF	4.00	22,332
				454,603
E10 Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				109,500
Cabinets, countertops shelving and millwork	100	LF	900.00	90,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	1,100	SF	15.00	16,500
Entrance mat				*n/a*
				109,500
F10 Special Construction				
				0

MGAC

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				34,384
Selective demolition				
Exterior window	275	SF	5.00	1,375
Doors	14	EA	150.00	2,100
Roofing including roof sheathing	6,200	SF	1.00	6,200
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,583	SF	3.00	16,749
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	3,720	SF	2.00	7,440
F2020 Hazardous Components Abatement				41,873
Hazmat abatement - allowance	5,583	SF	7.50	41,873
				76,257

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Patient Ward 205 (LACO 1193)				
Gross Site Area	10,600	SF		
Building footprint	5,583	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site Improvement				
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	20.00	100,000
Premium for permeable paving	2,500	SF	13.00	32,500
Veranda				
Replace wood columns with steel columns (wrapped with wood finish), provide bolted connections to foundation & roof	6	EA	1,200.00	7,200
Provide expansion joints between veranda and building	1	LS	2,500.00	2,500
Replace deteriorated roof framing; allow 60%	1,000	SF	13.00	13,000
Provide new handrail support	75	LF	125.00	9,375
Replace wood fascia	75	LF	30.00	2,250
New roof sheathing	1,630	SF	3.50	5,705
Remove/replace roof shingles including waterproofing membrane and flashing	1,630	SF	20.00	32,600
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Lighting	1	LS	10,000.00	10,000
Site Utilities including site drainage	5,000	SF	15.00	75,000
Alternate Cost Before Markups				**325,130**
Z10 Design Contingency	10.00%			32,513
Z11 General Requirements	4.00%			14,306
Z21 General Conditions	6.00%			22,317
Z22 Bonds & Insurance	1.50%			5,914
Z23 Contractor's Overhead, Profit & Fee	3.75%			15,007
				415,186

D LACO No. 1193 (Patient Ward 205) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Patient Ward 205 #1193

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Patient Ward 205 (LACO #1193) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Patient Ward 205 #1193 is provided as part of the Feasibility Study with

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

additional information about the value and significance of specific features, materials, and finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Patient Ward 205 (LACO #1193), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or

	braced or reinforced.	alternative standards under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an*

		acceptable to a more durable construction system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and

		roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.*
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant

		buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a	Utilize qualified staff or retain a qualified company to determine if toxic droppings

	special company been brought in for its disposal?	are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and*

		observations • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as*

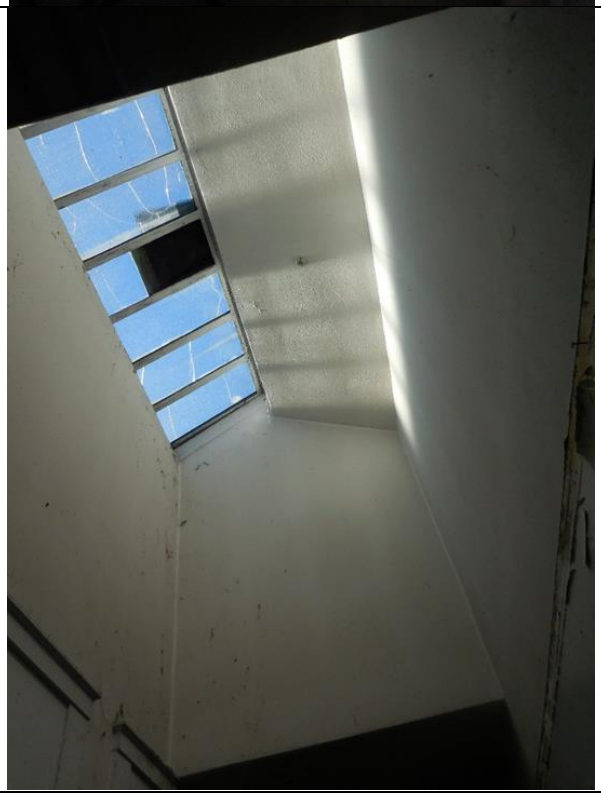
		recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*

S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIODIC MAINTENANCE

PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Exterior eastern view with vandalized roof flashing	
2	Veranda on south elevation	

3	Interior condition	
4	Existing skylight condition	

E LACO No. 1193 (Patient Ward 205) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Patient Ward 205 (LACO 1193)

MGAC

Mothballing Cost Plan — Patient Ward 205 (LACO 1193)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 205 (LACO 1193)		5,583	37.61	210
TOTAL BUILDING CONSTRUCTION			5,583	37.61	210
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**210**
Escalation to Midpoint (Jul 2021)		11.7%			24
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			5
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			25
Recommended Budget					***279***

MGAC

Mothballing Cost Plan — Patient Ward 205 (LACO 1193)

Item Description	Quantity	Unit	Rate	Total
1.) Patient Ward 205 (LACO 1193)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,583***	***SF***		
Gross Wall Area	***3,700***	***SF***		
Roof Area	***6,200***	***SF***		
Windows Area	***1,100***	***SF***		
Gross Site Area	***10,600***	***SF***		
Building footprint	***5,583***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	5,583	SF	1.50	8,375
Repaint exterior walls	3,700	SF	2.00	7,400
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	1,100	SF	25.00	27,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,700	SF	0.10	370
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,200	SF	15.00	93,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,583	SF	0.25	1,396
Install smoke & fire detectors including wiring	5,583	SF	1.00	5,583
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,583	SF	0.75	4,187
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**163,561**
Z10 Design Contingency	15.00%			24,534
Z11 General Requirements	3.00%			5,643
Z21 General Conditions	3.00%			5,812
Z22 Bonds & Insurance	1.50%			2,993
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,595
				210,138

Feasibility Study Reports for LACO No. 1194 (Patient Ward 206)

Secondary Contributor

ESA

A LACO No. 1194 (Patient Ward 206) – Architectural Assessment Report

Patient Ward 206 (LACO 1194)

5,583 s.f.
Built 1926
Secondary Contributor to Historic District

Building Description

One of eleven nearly identical buildings, Patient Ward 206 (LACO No. 1194) is located in the west half of a row of nine patient wards that spans the block of Descanso Street between Hawthorn Avenue and Laurel Street. A continuous veranda along the Descanso Street elevations is the focal point of the grouping. Two additional patient wards are located west of Laurel Street. Patient Ward 206 is a one-story, asymmetrical in appearance, and vernacular in design. It is rectangular in plan and substantially longer than it is wide. The wood-framed building is capped by a high-pitched, front-gable-on-hip roof with moderately over-hanging eaves, exposed rafter tails, and triangular brace supports. Composition shingles cover the roof. A gable projection is located at the south end of the west elevation roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. Triangular dormer vents and skylights are located on the east and west elevations. The building sits on a concrete slab foundation, and the exterior walls are reinforced concrete covered in smooth stucco. The primary entrance faces south onto the veranda, which is characterized by a raised concrete foundation, a shed roof with exposed beams and trusses, square wood posts, and iron pipe railings. Plain wood trim with extended lintels frames the entry, whose original door has been replaced by a non-original metal door. A full- length, wood-framed, screened porch on the east elevation, capped by a shed roof projection, was enclosed to provide additional ward space. A secondary entrance, accessed by a concrete stoop, is located on the rear elevation; the rear door is also a metal replacement. Original fenestration on all elevations can generally be described as bands of original wood-frame, one-over-one, double-hung sash windows with transoms, irregularly arranged, whose plain wood casings are characterized by slightly extended lintels. Also present are wood-frame one-light hopper windows with transoms and double-casement windows. Wood slat awnings have been added to west facing windows. Concrete ramps and staircases with iron pipe railings provide access to the building.[1]

Statement of Significance

The significance of LACO No. 1194 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> Patient Ward 206 (LACO No. 1196) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 206 (LACO No. 1194),* prepared for the County of Los Angeles June 2, 2008.

1952. The building was erected in 1926 during a large building initiative in the 1920s under the Los Angeles County Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933-1952). Thirteen patient wards were constructed between 1923 and 1928 to treat chronically ill patients, marking the evolution of the mission of the County Farm from the housing and care of indigents to a long-term hospital facility. This building is one of the eleven extant examples of this property type in the Historic District.

Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. A vernacular style building, it retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features: horizontal-massing and rectangular plan; continuous veranda on a raised foundation; high-pitched complex roof consisting of gable and hipped projections; linear bands of windows; and projecting screened porches. Its setting has been altered through the loss of eastern most two of the original ward buildings in the late 1990s, and the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 206 (LACO No. 1194),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **6,200 s.f. Approx. per building,** • **82,000 for all patient wards and veranda.**
• **Covered veranda –** Wood joists are deteriorated. Railing in need of replacement.	• **1,630 at each building**
• **Exterior walls –** Exterior plaster is damaged in minimal amount of areas. It is repairable in most areas.	• **3,700 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **52 wood windows** • **4 exterior doors** • **Per building**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining. The original screen porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **5,583 s.f.**
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Original covered screen porch has been enclosed; however, some walls are vandalized and damaged.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **5,583 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

Character Defining features	
• **Roofing –** Replace entire composition shingle roof, waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **5,583 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **3,700 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**

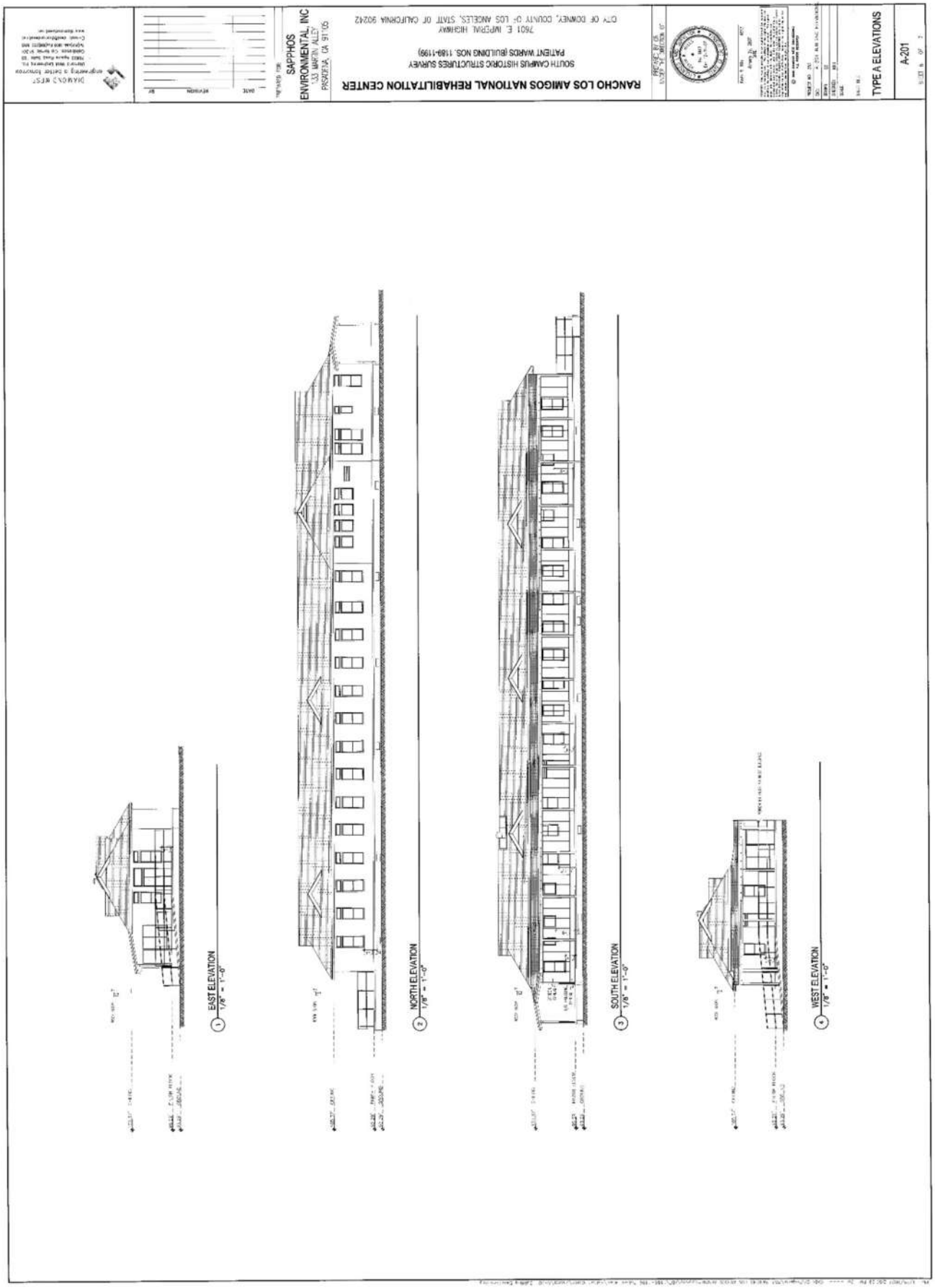
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **52 wood windows**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **5,000 s.f. courtyard.** • **8 totals for 40,000 s.f.**

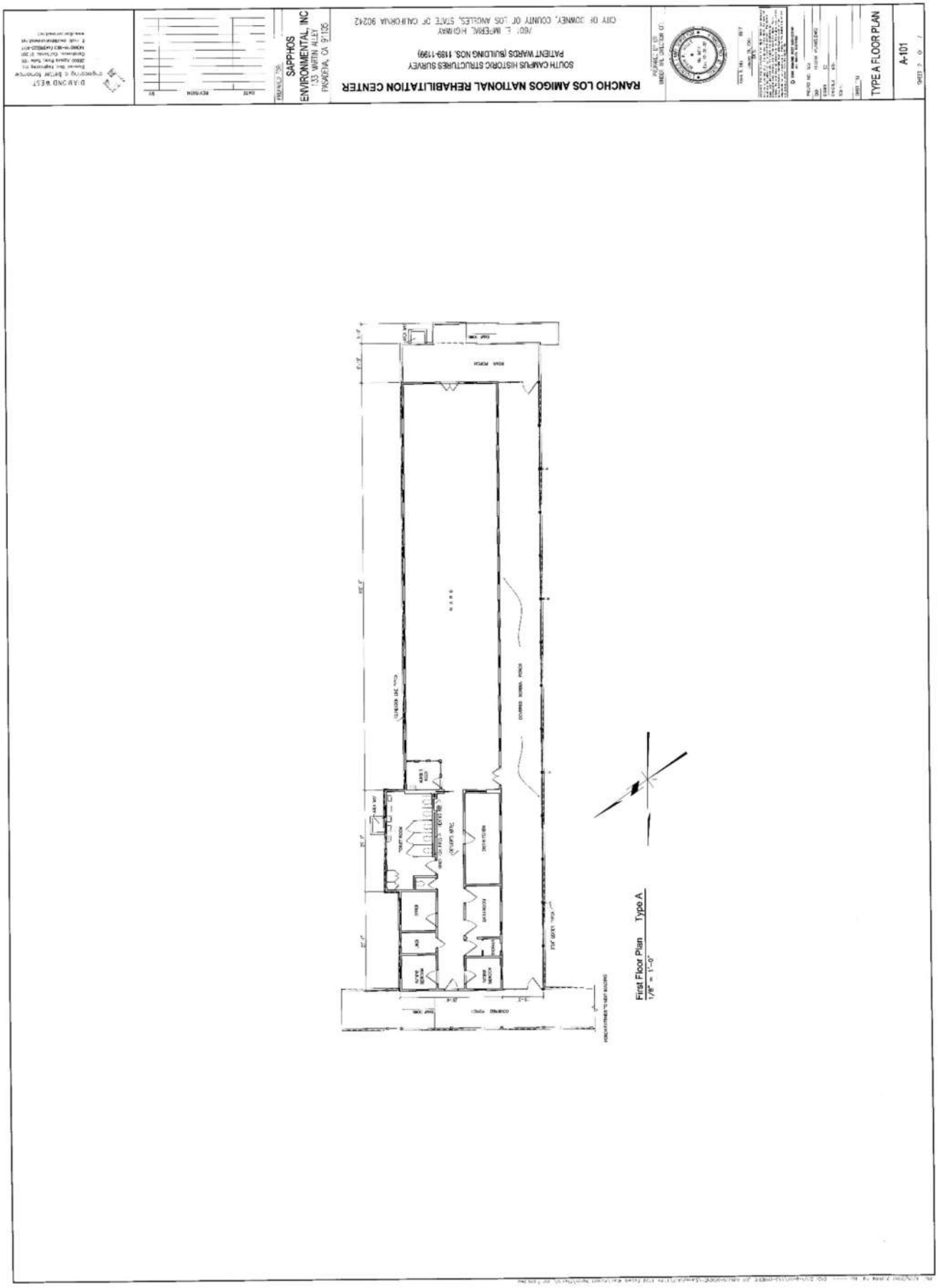
Interior Spaces

It is assumed that this 5,583 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **5,583 s.f.**
• **Walls –** Remove paint from masonry and all damaged plaster, repair in-kind per Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **5,593 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton HVAC system ground mounted with hard duct exposed throughout.	

• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restrooms-2 stalls, one sink per sex. 240 s.f. total.**
• **Electrical** – Provide new 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in rear location and provide with new railings and new maximum slope of 8%	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A ELEVATIONS
A-201
EAST ELEVATION
1/8" = 1'-0"
NORTH ELEVATION
1/8" = 1'-0"
SOUTH ELEVATION
1/8" = 1'-0"
WEST ELEVATION
1/8" = 1'-0"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PATIENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
133 WARTIN ALLEY
PASADENA, CA 91105
TYPE A FLOOR PLAN
A-101
First Floor Plan Type A
1/8" = 1'-0"

South Elevation with Veranda

Entry doors and windows covered in plywood

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.

Damaged eaves and fascia board throughout

Covered Porch

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all interior debris, provide new landscape and hardscape.

B LACO No. 1194 (Patient Ward 206) – Structural Assessment Report

Structural Assessment: Patient Ward Building 206
(LACO NO. 1194)

Summary of Assessment
This building was constructed between 1923-1928, as part of a set of Patient Ward buildings. This report describes conditions representative of the entire set of buildings, and the suggested upgrades are recommended for the set as a whole. Some of the original plans were available for review. The Patient Ward buildings are single-story wood structures on concrete slabs and foundations with a 10-foot ceiling height. The walls are constructed of plaster over wood lath, a type of construction that is no longer used. The buildings contain numerous structural members that are deteriorated and may pose a threat to the buildings and their occupants in the event of a seismically induced ground movement.

This building is in poor condition. Deterioration and damage were observed throughout the structure, particularly in the roof framing and sheathing. Additionally, the building does not appear to have an adequate lateral-force-resisting system. Strengthening and new connections will be needed throughout the building, including at the roof, walls, foundation, and veranda. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this Patient Ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building
The typical building footprint is approximately 163 feet by 34 feet with the longer dimension running north-south. The gable roofing is composed of a shingle roof over ½-inch by 4-inch straight sheathing on 2 x 6 rafters at 24 inches on center. The roof rafters and ceiling joists are tied together with 2x web members to form field-constructed carpenter trusses at 24 inches on center.

The exterior walls around the main building supports are made of stucco plaster over metal lath on 2 x 4 wood studs. The interior walls are 2x wood stud walls with wood lath and plaster. The building has a raised wood floor consisting of wood framing with wood plank flooring. Water damage has likely deteriorated the floor framing in many areas, and a large portion of the framing will likely need to be replaced. The floor is supported on interior concrete pedestals and footings which create a 30-inch open crawl space. The exterior walls are supported by a continuous foundation.

Condition Assessment
The wood framing of these structures generally appears to be in poor condition. A large portion of existing wood elements may need replacement, repair, or strengthening. Deterioration of wood members exists in many areas where the floor, walls, and roof are exposed. Broken floor, wall, and roof sheathing was also observed in some places, as shown in Figure 1 through 4. There is some ceiling and wall damage due to water leaks; the wood members inside the ceiling and wall are likely damaged in these areas. The exposed rafters show a clear sign of decay, as seen in Figure 5[1]. Visual inspection revealed that some of the rafters are also heavily damaged. Figure 6 shows the deterioration of the external wall trim and paneling due to long-term exposure to the elements.

The ceilings are typically wood lath and plaster, which is heavy and subject to weakening due to prolonged moisture. Some rooms have ceiling tiles glued to drywall. Both types of ceiling pose a potential falling hazard, as the heavy plaster or the ceiling tiles could fall, cause injury, and block egress in a seismic event. In many areas, large portions

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

of ceiling or full tiles have already detached from the building. The ceilings should be completely removed and replaced.

Figure 7 shows major cracks found on the west side of one of the Patient Ward buildings. Moreover, reinforcement exposed by delamination of concrete was noticed at a porch foundation, as shown in Figure 8. The deterioration shown in these photos is typical for the set of buildings.

The veranda structure, which provides a walkway connecting the front entrances of all the Patient Ward buildings, also has signs of deterioration. The fascia at each side is completely deteriorated, as shown in Figure 9, and much of the wood framing for the veranda roof displays signs of dry rot, as shown in Figure 10. It is likely that 50 to 100% of the framing will need to be replaced. The veranda roof is supported on 6 x 6 wood posts on each side of the walkway. As seen in Figure 11, it is apparent that the posts have been exposed to severe weather conditions, and in some cases, are badly damaged at the base.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. The building's light-weight construction significantly reduces the forces and stresses induced on the building during an earthquake. This is likely the reason why the Patient Ward buildings appear to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, these buildings would be expected to perform below the life-safety standard. The existing roof and wall construction can withstand very little lateral force. In addition, the cripple wall below the floor will be subjected to a high amount of movement and shear stress.

Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

The cracks and delamination of concrete at the foundation are not expected to significantly compromise the integrity of the building. The concrete foundation appears to be in fair condition for a building of this age.

There are several concerns with the veranda at the south side of the buildings. The deterioration of the posts will likely continue, which could lead to partial collapse even without a seismic event. The posts are not positively connected to the roof or the foundation, as shown in Figure 12 and 13, which, in the event of an earthquake, could cause the structure to separate and may lead to collapse. Additionally, the veranda structure and the Patient Ward buildings will likely try to move independently from each other, but the veranda is currently attached to all buildings. This connection between the veranda and the buildings could lead to damaged roof framing and potential falling hazards and safety risks. A seismic separation should be added at each building (adding a new post adjacent to the separation to support the veranda roof as depicted in Figure 14), and the posts should be bolted to the roof and foundation.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be needed at every wall. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning

north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Add a series of cantilevered steel columns at the sun porch to vertically and laterally support the roof framing and maintain the character-defining full-height windows. The new cantilevered columns will require new concrete caisson footings.
- Steel shear panels or new plywood sheathing will need to be added to all exterior walls (other than the sun porch outer wall) and to all interior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new cripple wall supports and new shallow foundations.
- Add hold downs at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove (and replace) existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace deteriorated wood members (roof and wall framing) as needed.
- Install concrete pier supports as needed beneath interior bearing walls.
- Replace wood flooring where holes or damage occur.
- Remove and replace plaster ceilings and ceiling tiles.
- Repair floor where differential settlement has led to deformed or broken framing.
- Upgrade foundations throughout the building.

Veranda

- Replace the fascia.
- Replace any roof framing damaged by dry rot, termites, or other causes. It is likely that 40 to 80% of the framing will need to be replaced.
- Replace posts with steel cantilever columns (wrapped with wood finish). Provide bolted connections to foundation and veranda roof.
- Provide expansion joints in the veranda between buildings (See Figure 14).
    - Provide shoring to temporarily support the structure while joints are created.
    - Cut a joint across the width of the veranda roof and add a secondary post near the joint at the north side. Eight joints and new posts total are expected.
- Disconnect the existing handrails from the wood posts; provide new handrail support to slab or to new posts.

Figure 1: Damaged roof structure

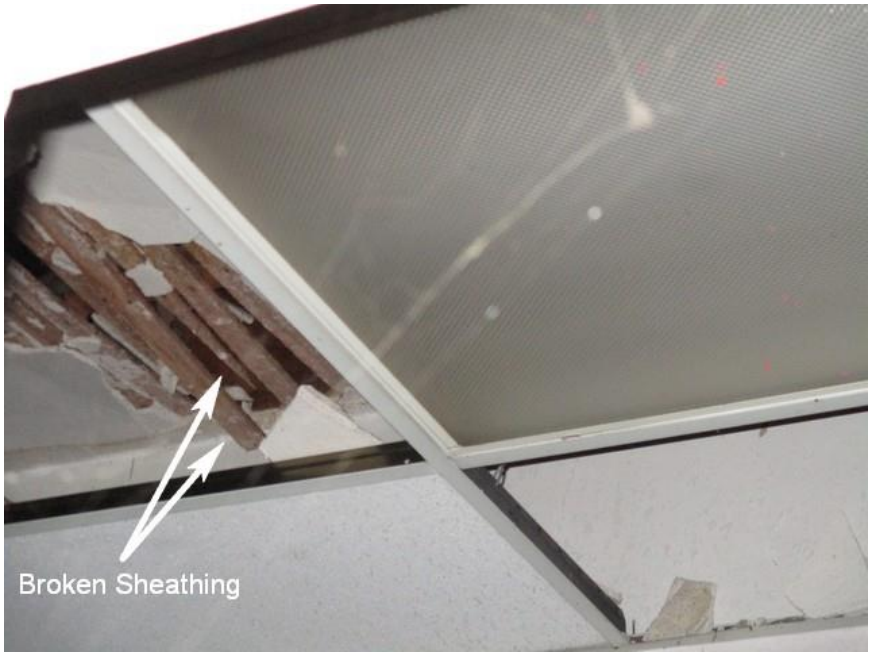

Figure 2: Fallen ceiling and damaged sheathing

Figure 3: Broken floor sheathing

Figure 4: Damaged wood lath and plaster wall (interior)

Figure 5: Decay of exposed rafters

Figure 6: Deterioration of exterior trim and paneling

Figure 7: Foundation cracks

Figure 8: Exposed rebar at crawl space

Figure 9: Fully deteriorated fascia at veranda

Figure 10: Deterioration and dry rot of veranda roof framing

Figure 11: Deteriorated post base

Figure 12: Lack of connection between post base and foundation

Figure 13: Lack of connection between post and roof framing

Figure 14: Recommended seismic joint upgrades at veranda

C LACO No. 1194 (Patient Ward 206) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Patient Ward 206 (LACO 1194)

MGAC

Feasibility Study Cost Plan — Patient Ward 206 (LACO 1194)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 206 (LACO 1194)		5,583	464.80	2,595
SUB-TOTAL BUILDING CONSTRUCTION			5,583	464.80	2,595
S1	Sitework		5,000	83.00	415
	Premium for enhanced sustainable site features				45
SUB-TOTAL SITEWORK					460
TOTAL BUILDING AND SITEWORK					**3,055**
Escalation to Midpoint (Jul 2021)		11.7%			356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			273
	Project Management Consultant Services	3.0%			111
	FF & E	5.8%			220
	Taxes and Indirect Fees	1.0%			40
	Building Permit and Other Agency Fees	1.5%			61
	Owner Contingency/Construction Contingency	25.0%			1,029
Recommended Budget					***5,145***

Feasibility Study Cost Plan — Patient Ward 206 (LACO 1194) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,583		
TOTAL GROSS FLOOR AREA	**5,583**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.179
Gross Area		5,583	SF	1.000
Enclosed Area		5,583	SF	1.000
Covered Area		1,630	SF	0.292
Footprint Area		5,583	SF	1.000
Gross Wall Area		3,700	SF	0.663
Finished Wall Area		3,700	SF	0.663
Windows or Glazing	30%	1,100	SF	0.197
Roof Area - Sloping		6,200	SF	1.111
Roof Area - Total		6,200	SF	1.111
Roof Glazing Area		50	SF	0.009
Interior Partitions		185	LF	0.033
Finished Area		5,583	SF	1.000

MGAC

Feasibility Study Cost Plan — Patient Ward 206 (LACO 1194) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,583 SF	
A10	Foundations		2%	10.00	56
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	56
B10	Superstructure		7%	34.16	191
B20	Exterior Enclosure		11%	48.84	273
B30	Roofing		5%	25.22	141
B	Shell		23%	108.23	604
C10	Interior Construction		2%	11.43	64
C20	Stairways		0%	0.00	0
C30	Interior Finishes		10%	45.85	256
C	Interiors		12%	57.28	320
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.58	109
D30	Heating, Ventilation & Air Cond.		10%	47.20	264
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		18%	81.43	455
D	Services		33%	155.21	867
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	19.61	110
E	Equipment & Furnishings		4%	19.61	110
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	13.66	76
F	Special Construction & Demolition		3%	13.66	76
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	363.99	2,032
Z10	Design Contingency	10.00%	8%	36.40	203
Z11	General Requirements	4.00%	3%	16.02	89
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	416.41	2,325
Z21	General Conditions	6.00%	5%	24.98	139
Z22	Bonds & Insurance	1.50%	1%	6.62	37
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.80	94
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	464.82	2,595
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	464.80	2,595

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				55,830
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	5,583	SF	10.00	55,830
A1030 Slab On Grade				
Remove/replace ramp including railings				*site*
				55,830
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				43,541
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 10%	600	SF	40.00	24,000
Lightweight concrete topping, 1 1/2"	5,583	SF	3.50	19,541
B1020 Roof Construction				147,200
Repair/replace deteriorated roof structure; allow 50%	3,100	SF	30.00	93,000
Strengthen wall and diaphragm connection, provide new roof sheathing	6,200	SF	8.50	52,700
Provide expansion joints between veranda and building	1	LS	1,500.00	1,500
				190,741

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				148,000
Strengthening of existing exterior walls; add shear panels to interior and exterior	3,700	SF	7.00	25,900
Weather barrier at exterior walls	3,700	SF	2.50	9,250
Plaster and repaint throughout exterior walls	3,700	SF	14.00	51,800
Plaster and repaint throughout interior face of exterior walls	3,700	SF	13.00	48,100
Loose fill insulation	3,700	SF	3.50	12,950
Veranda				*Sitework*
B2020 Exterior Windows				115,500
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	825	SF	100.00	82,500
New windows similar kind, high performance glazing; allow 25%	275	SF	120.00	33,000
B2030 Exterior Doors				9,200
New exterior doors	4	EA	2,300.00	9,200
				272,700
B30 Roofing				
B3010 Roof Coverings				133,300
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	6,200	SF	21.50	133,300
B3020 Roof Openings				7,500
Repair existing skylight framing, allow for new glazing and sealant	50	SF	150.00	7,500
				140,800
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000

MGAC

Feasibility Study Cost Plan — Patient Ward 206 (LACO 1194)

	Quantity	Unit	Rate	Total
C1020 Interior Doors				21,500
New wood doors including frames and hardware	10	EA	2,150.00	21,500
C1030 Fittings				30,332
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,583	SF	4.00	22,332
				63,832

C20 Stairways

				0

C30 Interior Finishes

C3010 Wall Finishes				21,500
Repair damaged wall plaster and repaint - interior partitions, allow 30%	1,100	SF	13.00	14,300
Ceramic wall tiles to toilets	400	SF	18.00	7,200
C3020 Floor Finishes				39,081
New floor finishes including base	5,583	SF	7.00	39,081
Repair existing flooring				*n/a*
C3030 Ceiling Finishes				195,405
New gypsum plaster ceiling	5,583	SF	35.00	195,405
				255,986

D10 Conveying Systems

				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				30,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	3,750.00	3,750
D2030 Sanitary Waste				40,749
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,583	SF	2.00	11,166
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,583	SF	1.00	5,583
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,749
Surface water drainage				
Roof & overflow drains, < = 6"	5,583	SF	3.00	16,749
D2090 Other Plumbing Systems				5,583
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,583.00	5,583
				109,331

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				60,601
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	275	mbth	27.50	7,563
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,583	SF	1.50	8,375
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,583	SF	8.00	44,664
D3040 Distribution Systems				126,839
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,979	LB	12.00	83,745
Dampers	1	LS	8,374.50	8,375
Insulation	5,234	SF	4.50	23,553
Diffusers, registers and grilles	5,583	SF	2.00	11,166
D3050 Terminal & Package Units				40,583
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,583
D3060 Controls and Instrumentation				25,124
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,583	SF	4.50	25,124
D3070 Systems Testing & Balancing				8,375
Test and balance air systems	5,583	SF	1.50	8,375
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				263,521

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				39,081
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,583	SF	7.00	39,081
				39,081
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				105,666
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	35	kVA	975.00	34,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,583	SF	3.50	19,541
D5020 Lighting & Branch Wiring				223,320
User convenience power				
Panel board breakers, 120 V circuits	5,583	SF	2.00	11,166
Receptacles, including conduit and cable	5,583	SF	5.50	30,707
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,583	SF	27.50	153,533

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,583	SF	5.00	27,915
D5030 Communications & Security				78,162
Telephone and communications				
Telephone/data - including conduit & cable	5,583	SF	6.50	36,290
WAP	5,583	SF	1.00	5,583
DAS - Emergency response & cellular	5,583	SF	4.00	22,332
Cable tray/wire-way/j-hooks	5,583	SF	1.00	5,583
Audiovisual rough-in	5,583	SF	1.50	8,375
D5090 Other Electrical Systems				47,456
Fire alarm systems	5,583	SF	4.50	25,124
Security - perimeter access control & CCTV surveillance	5,583	SF	4.00	22,332
				454,603

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				109,500
Cabinets, countertops shelving and millwork	100	LF	900.00	90,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	1,100	SF	15.00	16,500
Entrance mat				*n/a*
				109,500

F10 Special Construction

				0

MGAC

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				34,384
Selective demolition				
Exterior window	275	SF	5.00	1,375
Doors	14	EA	150.00	2,100
Roofing including roof sheathing	6,200	SF	1.00	6,200
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,583	SF	3.00	16,749
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	3,720	SF	2.00	7,440
F2020 Hazardous Components Abatement				41,873
Hazmat abatement - allowance	5,583	SF	7.50	41,873
				76,257

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Patient Ward 206 (LACO 1194)				
Gross Site Area	10,600	SF		
Building footprint	5,583	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site Improvement				
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	20.00	100,000
Premium for permeable paving	2,500	SF	13.00	32,500
Veranda				
Replace wood columns with steel columns (wrapped with wood finish), provide bolted connections to foundation & roof	6	EA	1,200.00	7,200
Provide expansion joints between veranda and building	1	LS	2,500.00	2,500
Replace deteriorated roof framing; allow 60%	1,000	SF	13.00	13,000
Provide new handrail support	75	LF	125.00	9,375
Replace wood fascia	75	LF	30.00	2,250
New roof sheathing	1,630	SF	3.50	5,705
New roof shingles including waterproofing membrane and flashing	1,630	SF	20.00	32,600
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Lighting	1	LS	10,000.00	10,000
Site Utilities including site lighting and drainage	5,000	SF	15.00	75,000
Alternate Cost Before Markups				**325,130**
Z10 Design Contingency	10.00%			32,513
Z11 General Requirements	4.00%			14,306
Z21 General Conditions	6.00%			22,317
Z22 Bonds & Insurance	1.50%			5,914
Z23 Contractor's Overhead, Profit & Fee	3.75%			15,007
				415,186

D LACO No. 1194 (Patient Ward 206) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Patient Ward 206 #1194

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Patient Ward 206 (LACO #1194) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Patient Ward 206 #1194 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Patient Ward 206 (LACO #1194), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction*

		system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior*

		spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building.

		Refer to the recommendations for landscape maintenance above.
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIODIC MAINTENANCE

PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Exterior eastern view with vandalized roof flashing	
2	Veranda on south elevation	

3	Interior condition	
4	Existing courtyard	

E LACO No. 1194 (Patient Ward 206) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Patient Ward 206 (LACO 1194)

MGAC

Mothballing Cost Plan — Patient Ward 206 (LACO 1194)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 206 (LACO 1194)		5,583	37.61	210
TOTAL BUILDING CONSTRUCTION			5,583	37.61	210
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**210**
Escalation to Midpoint (Jul 2021)		11.7%			24
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			5
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			25
Recommended Budget					***279***

MGAC

Mothballing Cost Plan — Patient Ward 206 (LACO 1194)

Item Description	Quantity	Unit	Rate	Total
1.) Patient Ward 206 (LACO 1194)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,583***	***SF***		
Gross Wall Area	***3,700***	***SF***		
Roof Area	***6,200***	***SF***		
Windows Area	***1,100***	***SF***		
Gross Site Area	***10,600***	***SF***		
Building footprint	***5,583***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	5,583	SF	1.50	8,375
Repaint exterior walls	3,700	SF	2.00	7,400
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	1,100	SF	25.00	27,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,700	SF	0.10	370
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,200	SF	15.00	93,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,583	SF	0.25	1,396
Install smoke & fire detectors including wiring	5,583	SF	1.00	5,583
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,583	SF	0.75	4,187
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**163,561**
Z10 Design Contingency	15.00%			24,534
Z11 General Requirements	3.00%			5,643
Z21 General Conditions	3.00%			5,812
Z22 Bonds & Insurance	1.50%			2,993
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,595
				210,138

Feasibility Study Reports for LACO No. 1195 (Patient Ward 207)

Secondary Contributor

ESA

A LACO No. 1195 (Patient Ward 207) – Architectural Assessment Report

Patient Ward 207 (LACO 1195)

5,583 s.f.
Built 1926
Secondary Contributor to Historic District

Building Description

One of eleven nearly identical buildings, Patient Ward 207 (LACO No. 1195) is located in the west half of a row of nine patient wards that spans the block of Descanso Street between Hawthorn Avenue and Laurel Street. A continuous veranda along the Descanso Street elevations is the focal point of the grouping. Two additional patient wards are located west of Laurel Street. Patient Ward 207 is a one-story, asymmetrical in appearance, and vernacular in design. It is rectangular in plan and substantially longer than it is wide. The wood-framed building is capped by a high-pitched, front-gable-on-hip roof with moderately over-hanging eaves, exposed rafter tails, and triangular brace supports. Composition shingles cover the roof. A gable projection is located at the south end of the west elevation roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. Triangular dormer vents and skylights are located on the east and west elevations. The building sits on a concrete slab foundation, and the exterior walls are reinforced concrete covered in smooth stucco. The primary entrance faces south onto the veranda, which is characterized by a raised concrete foundation, and shed roof with exposed beams and trusses, square wood posts, and iron pipe railings. Plain wood trim with extended lintels frames the entry, whose original door has been replaced by a non-original metal door. A full-length, wood-framed, screened porch on the east elevation, capped by a shed roof projection, was enclosed to provide additional ward space. A secondary entrance, accessed by a concrete stoop, is located on the rear elevation; the rear door is also a metal replacement. Original fenestration on all elevations can generally be described as bands of original wood-frame, one-over-one, double-hung sash windows with transoms, irregularly arranged, whose plain wood casings are characterized by slightly extended lintels. Also present are wood-frame one-light hopper windows with transoms and double-casement windows. Wood slat awnings have been added to west facing windows. Concrete ramps and staircases with iron pipe railings provide access to the building.[1]

Statement of Significance

The significance of LACO No. 1195 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> Patient Ward 207 (LACO No. 1195) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1926 during a large building initiative in the 1920s under

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 207 (LACO No. 1195),* prepared for the County of Los Angeles June 2, 2008.

the Los Angeles County Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933-1952). Thirteen patient wards were constructed between 1923 and 1928 to treat chronically ill patients, marking the evolution of the mission of the County Farm from the housing and care of indigents to a long-term hospital facility. This building is one of the eleven extant examples of this property type in the Historic District. Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. A vernacular style building, it retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features: horizontal-massing and rectangular plan; continuous veranda on a raised foundation; high-pitched complex roof consisting of gable and hipped projections; linear bands of windows; and projecting screened porches. Its setting has been altered through the loss of westernmost two of the original ward buildings in the late 1990s, and the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 207 (LACO No. 1195), prepared* for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **6,200 s.f. Approx. per building,** • **82,000 for all patient wards and veranda.**
• **Covered veranda –** Wood joists are deteriorated. Railing in need of replacement.	• **1,630 at each building**
• **Exterior walls –** Exterior plaster is damaged in minimal amount of areas. It is repairable in most areas.	• **3,700 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **52 wood windows** • **4 exterior doors** • **Per building**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining. The original screen porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was	• **5,583 s.f.**

observed as well as visible standing water on flooring materials.	
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Original covered screen porch has been enclosed; however, some walls are vandalized and damaged.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **5,583 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

Character Defining features	
• **Roofing –** Replace entire composition shingle roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **5,583 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **3,700 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window	• **52 wood windows**

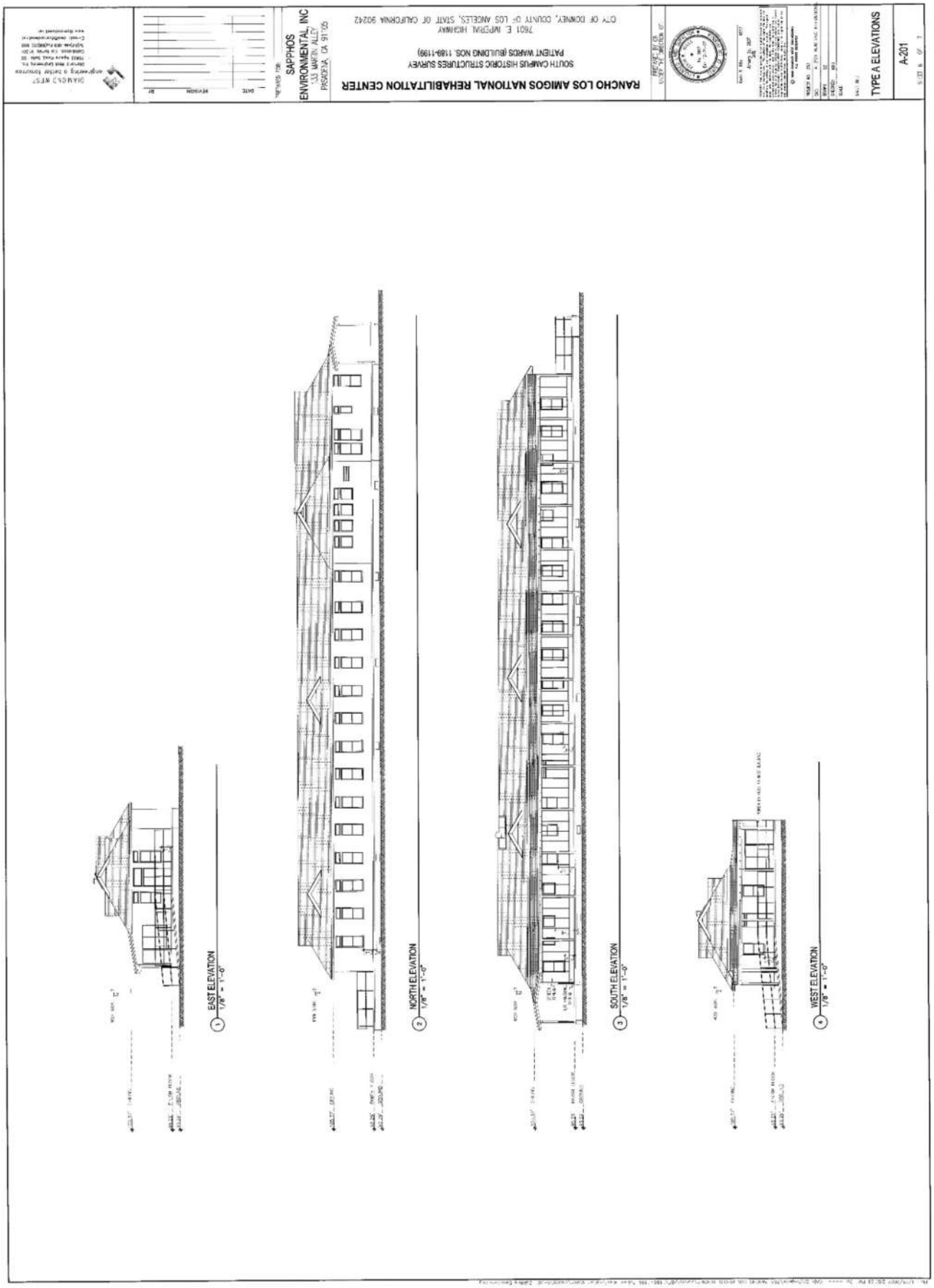
hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **5,000 s.f. courtyard.** • **8 totals for 40,000 s.f.**

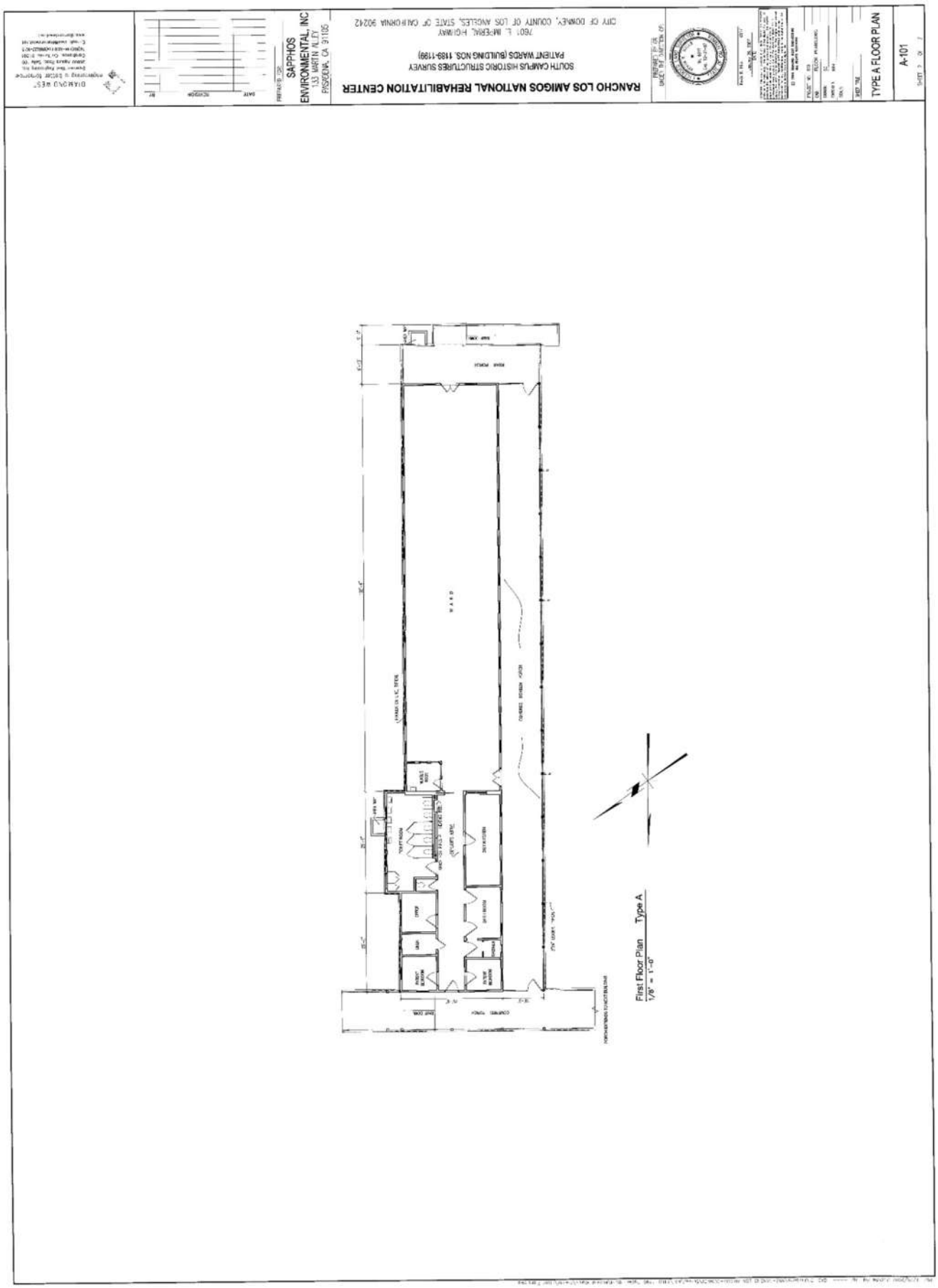
Interior Spaces

It is assumed that this 5,583 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **5,583 s.f.**
• **Walls –** Remove paint from masonry and all damaged plaster, repair in-kind per Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **5,593 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **Assume 40 l.f.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	

• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restrooms-2 Stalls one sink per sex. 240 s.f. total.**
• **Electrical** – Provide new 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in rear location and provide with new railings and new maximum slope of 8%	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATTENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A ELEVATIONS
A-201
EAST ELEVATION
1/8" = 1'-0"
NORTH ELEVATION
1/8" = 1'-0"
SOUTH ELEVATION
1/8" = 1'-0"
WEST ELEVATION
1/8" = 1'-0"


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
133 MARTIN ALLEY
PASADENA, CA 91105
TYPE A FLOOR PLAN
A-101
First Floor Plan Type A
1/8" = 1'-0"

South Elevation with Veranda

Entry door and windows with Plywood covering

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.

Interior Hallway

Covered Porch

9. Repair existing skylight.
10. Remove interior debris.

B LACO No. 1195 (Patient Ward 207) – Structural Assessment Report

Structural Assessment: Patient Ward Building 207
(LACO NO. 1195)

Summary of Assessment
This building was constructed between 1923-1928, as part of a set of Patient Ward buildings. This report describes conditions representative of the entire set of buildings, and the suggested upgrades are recommended for the set as a whole. Some of the original plans were available for review. The Patient Ward buildings are single-story wood structures on concrete slabs and foundations with a 10-foot ceiling height. The walls are constructed of plaster over wood lath, a type of construction that is no longer used. The buildings contain numerous structural members that are deteriorated and may pose a threat to the buildings and their occupants in the event of a seismically induced ground movement.

This building is in poor condition. Deterioration and damage were observed throughout the structure, particularly in the roof framing and sheathing. Additionally, the building does not appear to have an adequate lateral-force-resisting system. Strengthening and new connections will be needed throughout the building, including at the roof, walls, foundation, and veranda. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this Patient Ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building
The typical building footprint is approximately 163 feet by 34 feet with the longer dimension running north-south. The gable roofing is composed of a shingle roof over ½-inch by 4-inch straight sheathing on 2 x 6 rafters at 24 inches on center. The roof rafters and ceiling joists are tied together with 2x web members to form field-constructed carpenter trusses at 24 inches on center.

The exterior walls around the main building supports are made of stucco plaster over metal lath on 2 x 4 wood studs. The interior walls are 2x wood stud walls with wood lath and plaster. The building has a raised wood floor consisting of wood framing with wood plank flooring. Water damage has likely deteriorated the floor framing in many areas, and a large portion of the framing will likely need to be replaced. The floor is supported on interior concrete pedestals and footings which create a 30-inch open crawl space. The exterior walls are supported by a continuous foundation.

Condition Assessment
The wood framing of these structures generally appears to be in poor condition. A large portion of existing wood elements may need replacement, repair, or strengthening. Deterioration of wood members exists in many areas where the floor, walls, and roof are exposed. Broken floor, wall, and roof sheathing was also observed in some places, as shown in Figure 1 through 4. There is some ceiling and wall damage due to water leaks; the wood members inside the ceiling and wall are likely damaged in these areas. The exposed rafters show a clear sign of decay, as seen in Figure 5[1]. Visual inspection revealed that some of the rafters are also heavily damaged. Figure 6 shows the deterioration of the external wall trim and paneling due to long-term exposure to the elements.

The ceilings are typically wood lath and plaster, which is heavy and subject to weakening due to prolonged moisture. Some rooms have ceiling tiles glued to drywall. Both types of ceiling pose a potential falling hazard, as the heavy plaster or the ceiling tiles could fall, cause injury, and block egress in a seismic event. In many areas, large portions

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

of ceiling or full tiles have already detached from the building. The ceilings should be completely removed and replaced.

Figure 7 shows major cracks found on the west side of one of the Patient Ward buildings. Moreover, reinforcement exposed by delamination of concrete was noticed at a porch foundation, as shown in Figure 8. The deterioration shown in these photos is typical for the set of buildings.

The veranda structure, which provides a walkway connecting the front entrances of all the Patient Ward buildings, also has signs of deterioration. The fascia at each side is completely deteriorated, as shown in Figure 9, and much of the wood framing for the veranda roof displays signs of dry rot, as shown in Figure 10. It is likely that 50 to 100% of the framing will need to be replaced. The veranda roof is supported on 6 x 6 wood posts on each side of the walkway. As seen in Figure 11, it is apparent that the posts have been exposed to severe weather conditions, and in some cases, are badly damaged at the base.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. The building's light-weight construction significantly reduces the forces and stresses induced on the building during an earthquake. This is likely the reason why the Patient Ward buildings appear to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, these buildings would be expected to perform below the life-safety standard. The existing roof and wall construction can withstand very little lateral force. In addition, the cripple wall below the floor will be subjected to a high amount of movement and shear stress.

Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

The cracks and delamination of concrete at the foundation are not expected to significantly compromise the integrity of the building. The concrete foundation appears to be in fair condition for a building of this age.

There are several concerns with the veranda at the south side of the buildings. The deterioration of the posts will likely continue, which could lead to partial collapse even without a seismic event. The posts are not positively connected to the roof or the foundation, as shown in Figure 12 and 13, which, in the event of an earthquake, could cause the structure to separate and may lead to collapse. Additionally, the veranda structure and the Patient Ward buildings will likely try to move independently from each other, but the veranda is currently attached to all buildings. This connection between the veranda and the buildings could lead to damaged roof framing and potential falling hazards and safety risks. A seismic separation should be added at each building (adding a new post adjacent to the separation to support the veranda roof as depicted in Figure 14), and the posts should be bolted to the roof and foundation.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be needed at every wall. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning

north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Add a series of cantilevered steel columns at the sun porch to vertically and laterally support the roof framing and maintain the character-defining full-height windows. The new cantilevered columns will require new concrete caisson footings.
- Steel shear panels or new plywood sheathing will need to be added to all exterior walls (other than the sun porch outer wall) and to all interior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new cripple wall supports and new shallow foundations.
- Add hold downs at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove (and replace) existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace deteriorated wood members (roof and wall framing) as needed.
- Install concrete pier supports as needed beneath interior bearing walls.
- Replace wood flooring where holes or damage occur.
- Remove and replace plaster ceilings and ceiling tiles.
- Repair floor where differential settlement has led to deformed or broken framing.
- Upgrade foundations throughout the building.

Veranda

- Replace the fascia.
- Replace any roof framing damaged by dry rot, termites, or other causes. It is likely that 40 to 80% of the framing will need to be replaced.
- Replace posts with steel cantilever columns (wrapped with wood finish). Provide bolted connections to foundation and veranda roof.
- Provide expansion joints in the veranda between buildings (See Figure 14).
    - Provide shoring to temporarily support the structure while joints are created.
    - Cut a joint across the width of the veranda roof and add a secondary post near the joint at the north side. Eight joints and new posts total are expected.
- Disconnect the existing handrails from the wood posts; provide new handrail support to slab or to new posts.

Figure 1: Damaged roof structure

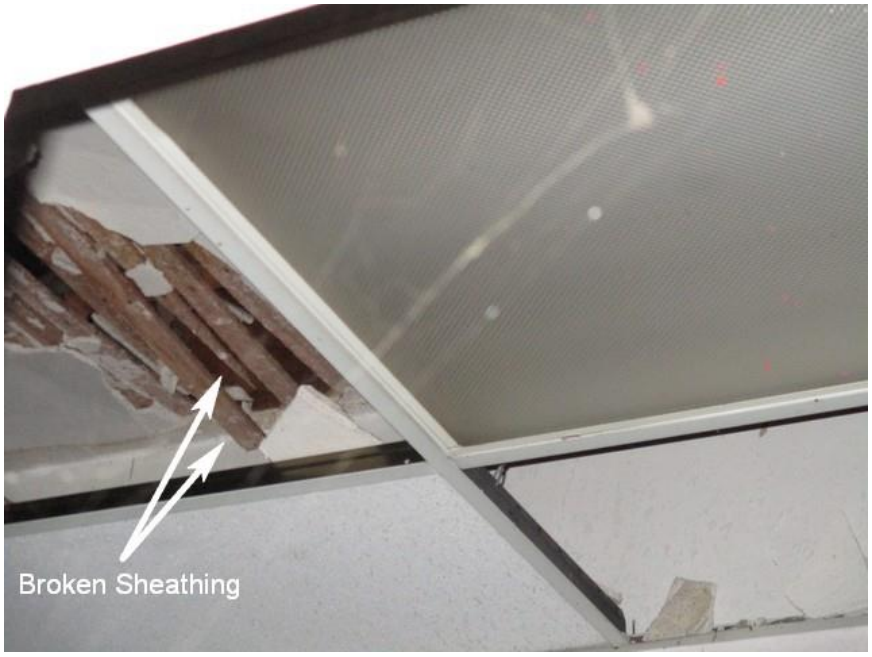


Figure 2: Fallen ceiling and damaged sheathing

Figure 3: Broken floor sheathing

Figure 4: Damaged wood lath and plaster wall (interior)

Figure 5: Decay of exposed rafters

Figure 6: Deterioration of exterior trim and paneling

Figure 7: Foundation cracks

Figure 8: Exposed rebar at crawl space

Figure 9: Fully deteriorated fascia at veranda

Figure 10: Deterioration and dry rot of veranda roof framing

Figure 11: Deteriorated post base

Figure 12: Lack of connection between post base and foundation

Figure 13: Lack of connection between post and roof framing

Figure 14: Recommended seismic joint upgrades at veranda

C LACO No. 1195 (Patient Ward 207) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Patient Ward 207 (LACO 1195)

Feasibility Study Cost Plan — Patient Ward 207 (LACO 1195)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 207 (LACO 1195)		5,583	464.80	2,595
SUB-TOTAL BUILDING CONSTRUCTION			5,583	464.80	2,595
S1	Sitework		5,000	83.00	415
	Premium for enhanced sustainable site features				45
SUB-TOTAL SITEWORK					460
TOTAL BUILDING AND SITEWORK					**3,055**
Escalation to Midpoint (Jul 2021)		11.7%			356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			273
	Project Management Consultant Services	3.0%			111
	FF & E	5.8%			220
	Taxes and Indirect Fees	1.0%			40
	Building Permit and Other Agency Fees	1.5%			61
	Owner Contingency/Construction Contingency	25.0%			1,029
Recommended Budget					***5,145***

Feasibility Study Cost Plan — Patient Ward 207 (LACO 1195) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,583		
TOTAL GROSS FLOOR AREA	**5,583**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.179
Gross Area		5,583	SF	1.000
Enclosed Area		5,583	SF	1.000
Covered Area		1,630	SF	0.292
Footprint Area		5,583	SF	1.000
Gross Wall Area		3,700	SF	0.663
Finished Wall Area		3,700	SF	0.663
Windows or Glazing	30%	1,100	SF	0.197
Roof Area - Sloping		6,200	SF	1.111
Roof Area - Total		6,200	SF	1.111
Roof Glazing Area		50	SF	0.009
Interior Partitions		185	LF	0.033
Finished Area		5,583	SF	1.000

MGAC

Feasibility Study Cost Plan — Patient Ward 207 (LACO 1195) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,583 SF	
A10	Foundations		2%	10.00	56
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	56
B10	Superstructure		7%	34.16	191
B20	Exterior Enclosure		11%	48.84	273
B30	Roofing		5%	25.22	141
B	Shell		23%	108.23	604
C10	Interior Construction		2%	11.43	64
C20	Stairways		0%	0.00	0
C30	Interior Finishes		10%	45.85	256
C	Interiors		12%	57.28	320
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.58	109
D30	Heating, Ventilation & Air Cond.		10%	47.20	264
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		18%	81.43	455
D	Services		33%	155.21	867
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	19.61	110
E	Equipment & Furnishings		4%	19.61	110
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	13.66	76
F	Special Construction & Demolition		3%	13.66	76
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	363.99	2,032
Z10	Design Contingency	10.00%	8%	36.40	203
Z11	General Requirements	4.00%	3%	16.02	89
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	416.41	2,325
Z21	General Conditions	6.00%	5%	24.98	139
Z22	Bonds & Insurance	1.50%	1%	6.62	37
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.80	94
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	464.82	2,595
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	464.80	2,595

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				55,830
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	5,583	SF	10.00	55,830
A1030 Slab On Grade				
Remove/replace ramp including railings				site
				55,830
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				43,541
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 10%	600	SF	40.00	24,000
Lightweight concrete topping, 1 1/2"	5,583	SF	3.50	19,541
B1020 Roof Construction				147,200
Repair/replace deteriorated roof structure; allow 50%	3,100	SF	30.00	93,000
Strengthen wall and diaphragm connection, provide new roof sheathing	6,200	SF	8.50	52,700
Provide expansion joints between veranda and building	1	LS	1,500.00	1,500
				190,741

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				148,000
Strengthening of existing exterior walls; add shear panels to interior and exterior	3,700	SF	7.00	25,900
Weather barrier at exterior walls	3,700	SF	2.50	9,250
Plaster and repaint throughout exterior walls	3,700	SF	14.00	51,800
Plaster and repaint throughout interior face of exterior walls	3,700	SF	13.00	48,100
Loose fill insulation	3,700	SF	3.50	12,950
Veranda				*Sitework*
B2020 Exterior Windows				115,500
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	825	SF	100.00	82,500
New windows similar kind, high performance glazing; allow 25%	275	SF	120.00	33,000
B2030 Exterior Doors				9,200
New exterior doors	4	EA	2,300.00	9,200
				272,700
B30 Roofing				
B3010 Roof Coverings				133,300
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	6,200	SF	21.50	133,300
B3020 Roof Openings				7,500
Repair existing skylight framing, allow for new glazing and sealant	50	SF	150.00	7,500
				140,800

	Quantity	Unit	Rate	Total
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000
C1020 Interior Doors				21,500
New wood doors including frames and hardware	10	EA	2,150.00	21,500
C1030 Fittings				30,332
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,583	SF	4.00	22,332
				63,832
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				21,500
Repair damaged wall plaster and repaint - interior partitions, allow 30%	1,100	SF	13.00	14,300
Ceramic wall tiles to toilets	400	SF	18.00	7,200
C3020 Floor Finishes				39,081
New floor finishes including base	5,583	SF	7.00	39,081
Repair existing flooring				*n/a*
C3030 Ceiling Finishes				195,405
New gypsum plaster ceiling	5,583	SF	35.00	195,405
				255,986

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
				0
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				30,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	3,750.00	3,750
D2030 Sanitary Waste				40,749
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,583	SF	2.00	11,166
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,583	SF	1.00	5,583
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,749
Surface water drainage				
Roof & overflow drains, < = 6"	5,583	SF	3.00	16,749
D2090 Other Plumbing Systems				5,583
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,583.00	5,583
				109,331

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				60,601
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	275	mbth	27.50	7,563
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,583	SF	1.50	8,375
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,583	SF	8.00	44,664
D3040 Distribution Systems				126,839
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,979	LB	12.00	83,745
Dampers	1	LS	8,374.50	8,375
Insulation	5,234	SF	4.50	23,553
Diffusers, registers and grilles	5,583	SF	2.00	11,166
D3050 Terminal & Package Units				40,583
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,583
D3060 Controls and Instrumentation				25,124
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,583	SF	4.50	25,124
D3070 Systems Testing & Balancing				8,375
Test and balance air systems	5,583	SF	1.50	8,375

	Quantity	Unit	Rate	Total
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				263,521
D40 Fire Protection				
D4010 Sprinklers				39,081
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,583	SF	7.00	39,081
				39,081
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				105,666
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	35	kVA	975.00	34,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,583	SF	3.50	19,541
D5020 Lighting & Branch Wiring				223,320
User convenience power				
Panel board breakers, 120 V circuits	5,583	SF	2.00	11,166
Receptacles, including conduit and cable	5,583	SF	5.50	30,707

	Quantity	Unit	Rate	Total
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,583	SF	27.50	153,533
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,583	SF	5.00	27,915
D5030 Communications & Security				78,162
Telephone and communications				
Telephone/data - including conduit & cable	5,583	SF	6.50	36,290
WAP	5,583	SF	1.00	5,583
DAS - Emergency response & cellular	5,583	SF	4.00	22,332
Cable tray/wire-way/j-hooks	5,583	SF	1.00	5,583
Audiovisual rough-in	5,583	SF	1.50	8,375
D5090 Other Electrical Systems				47,456
Fire alarm systems	5,583	SF	4.50	25,124
Security - perimeter access control & CCTV surveillance	5,583	SF	4.00	22,332
				454,603

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				109,500
Cabinets, countertops shelving and millwork	100	LF	900.00	90,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	1,100	SF	15.00	16,500
Entrance mat				*n/a*
				109,500

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				34,384
Selective demolition				
Exterior window	275	SF	5.00	1,375
Doors	14	EA	150.00	2,100
Roofing including roof sheathing	6,200	SF	1.00	6,200
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,583	SF	3.00	16,749
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	3,720	SF	2.00	7,440
F2020 Hazardous Components Abatement				41,873
Hazmat abatement - allowance	5,583	SF	7.50	41,873
				76,257

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Patient Ward 207 (LACO 1195)				
Gross Site Area	10,600	SF		
Building footprint	5,583	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site Improvement				
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	20.00	100,000
Premium for permeable paving	2,500	SF	13.00	32,500
Veranda				
Replace wood columns with steel columns (wrapped with wood finish), provide bolted connections to foundation & roof	6	EA	1,200.00	7,200
Provide expansion joints between veranda and building	1	LS	2,500.00	2,500
Replace deteriorated roof framing; allow 60%	1,000	SF	13.00	13,000
Provide new handrail support	75	LF	125.00	9,375
Replace wood fascia	75	LF	30.00	2,250
New roof sheathing	1,630	SF	3.50	5,705
New roof shingles including waterproofing membrane and flashing	1,630	SF	20.00	32,600
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Lighting	1	LS	10,000.00	10,000
Site Utilities including site lighting and drainage	5,000	SF	15.00	75,000
Alternate Cost Before Markups				**325,130**
Z10 Design Contingency	10.00%			32,513
Z11 General Requirements	4.00%			14,306
Z21 General Conditions	6.00%			22,317
Z22 Bonds & Insurance	1.50%			5,914
Z23 Contractor's Overhead, Profit & Fee	3.75%			15,007
				415,186

D LACO No. 1195 (Patient Ward 207) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Patient Ward 207 #1195

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Patient Ward 207 (LACO #1195) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Patient Ward 207 #1195 is provided as part of the Feasibility Study with

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

additional information about the value and significance of specific features, materials, and finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Patient Ward 207 (LACO #1195), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or

	braced or reinforced.	alternative standards under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an*

		acceptable to a more durable construction system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and

		roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.*
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant

		buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a	Utilize qualified staff or retain a qualified company to determine if toxic droppings

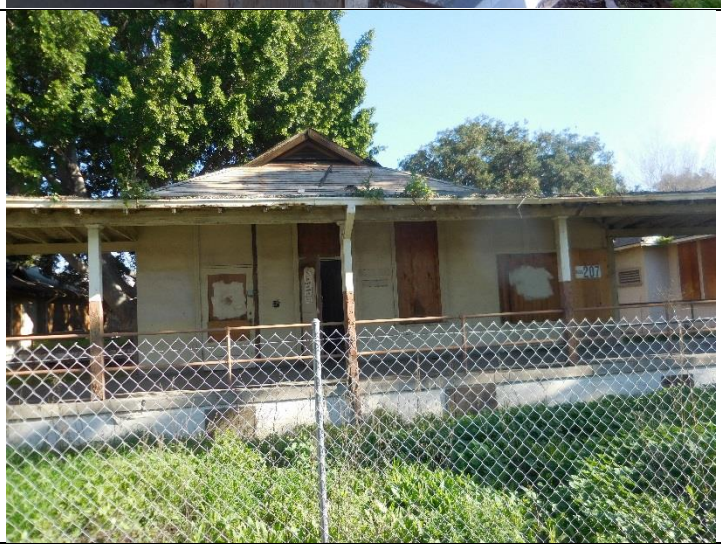
	special company been brought in for its disposal?	are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and*

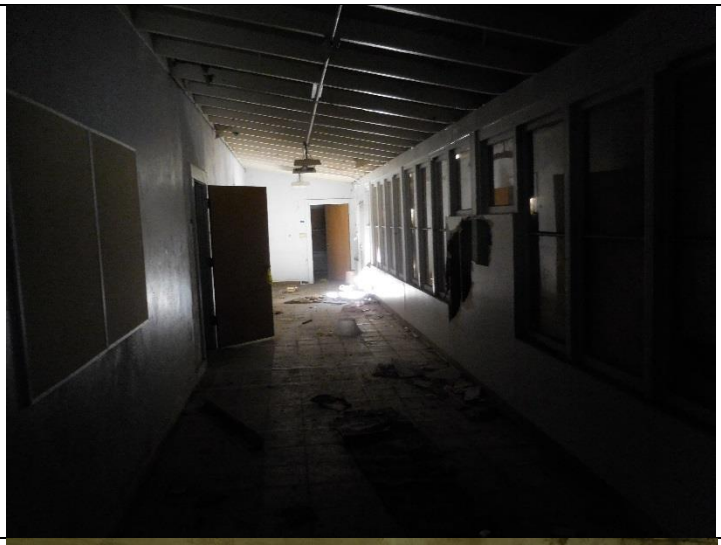
		observations • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as*

		recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*

S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Entry door and window plywood covering.	
2	Veranda on south elevation	

3	Interior condition	
4	Existing courtyard	

E LACO No. 1195 (Patient Ward 207) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Patient Ward 207 (LACO 1195)

Mothballing Cost Plan — Patient Ward 207 (LACO 1195)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 207 (LACO 1195)		5,583	37.61	210
TOTAL BUILDING CONSTRUCTION			5,583	37.61	210
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**210**
Escalation to Midpoint (Jul 2021)		11.7%			24
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			5
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			25
Recommended Budget					***279***

MGAC

Mothballing Cost Plan — Patient Ward 207 (LACO 1195)

Item Description	Quantity	Unit	Rate	Total
1.) Patient Ward 207 (LACO 1195)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,583***	***SF***		
Gross Wall Area	***3,700***	***SF***		
Roof Area	***6,200***	***SF***		
Windows Area	***1,100***	***SF***		
Gross Site Area	***10,600***	***SF***		
Building footprint	***5,583***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	5,583	SF	1.50	8,375
Repaint exterior walls	3,700	SF	2.00	7,400
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	1,100	SF	25.00	27,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,700	SF	0.10	370
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,200	SF	15.00	93,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,583	SF	0.25	1,396
Install smoke & fire detectors including wiring	5,583	SF	1.00	5,583
Provide battery power suppy for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,583	SF	0.75	4,187
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**163,561**
Z10 Design Contingency	15.00%			24,534
Z11 General Requirements	3.00%			5,643
Z21 General Conditions	3.00%			5,812
Z22 Bonds & Insurance	1.50%			2,993
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,595
				210,138

Feasibility Study Reports for LACO No. 1196 (Patient Ward 208)

Secondary Contributor

ESA

A LACO No. 1196 (Patient Ward 208) – Architectural Assessment Report

Patient Ward 208 (LACO 1196)

5,583 s.f.
Built 1926
Secondary Contributor to Historic District

Building Description

One of eleven nearly identical buildings, Patient ward 208 (LACO No. 1196) is located near the west end of a row of nine patient wards that span the block of Descanso Street between Hawthorn Avenue and Laurel Street. A continuous veranda along the Descanso Street elevations is the focal point of the grouping. Two additional patient wards are located west of Laurel street. Patient Ward 208 is a one-story, asymmetrical in appearance, and vernacular in design. It is rectangular in plan and substantially longer that it is wide. The wood-framed building is capped by a high-pitched, front-gable-on-hip roof with moderately over-hanging eaves, exposed rafter tails, and triangular brace supports. Composition shingles cover the roof. A gable projection is located at the south end of the west elevation roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. Triangular dormer vents and skylights are located on the east and west elevations. The building sits on a concrete slab foundation, and the exterior walls are reinforced concrete covered in smooth stucco. The primary entrance faces south onto the veranda, which is characterized by a raised concrete foundation, a shed roof with exposed beams and trusses, square wood posts, and iron pipe railings. Plain wood trim with extended lintels frame the entry, whose original door has been replaced by a non-original metal door. A full-length, wood-framed, screened porch on the east elevation, capped by a shed roof projection, was enclosed to provide additional ward space. A secondary entrance, accessed by a concrete stoop, is located on the rear elevation; the rear door is also a metal replacement. Original fenestration on all elevations can generally be described as bands of original wood-frame, one-over-one, double-hung sash windows with transoms, irregularly arranged, whose plain wood casing are characterized by slightly extended lintels. Also present are wood-frame windows. Concrete ramps and staircases with iron pipe railings provide access to the building.[1]

Statement of Significance

The significance of LACO No. 1196 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> Patient Ward 208 (LACO No. 1196) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1928 during a large building initiative in the 1920s under the Los Angeles County Poor Farm's most influential superintendent, William Ruddy

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 208 (LACO No. 1196),* prepared for the County of Los Angeles June 2, 2008.

Harriman (1915-1931; 1933-1952). Thirteen patient wards were constructed between 1923 and 1928 to treat chronically ill patients, marking the evolution of the mission of the County Farm from the housing and care of indigents to a long-term hospital facility. This building is one of the eleven extant examples of this property type in the Historic District. Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. A vernacular style building, it retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features: horizontal-massing and rectangular plan; continuous veranda on a raised foundation; high-pitched complex roof consisting of gable and hipped projections; linear bands of windows; and projecting screened porches. Its setting has been altered through the loss of westernmost two of the original ward buildings in the late 1990s, and the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 208 (LACO No. 1196),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **6,200 s.f. Approx. per building,** • **82,000 for all patient wards and veranda.**
• **Covered veranda –** Wood joists are deteriorated. Railing in need of replacement.	• **1,630 at each building**
• **Exterior walls –** Exterior plaster is damaged in minimal amount of areas. It is repairable in most areas.	• **3,700 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **52 wood windows** • **4 exterior doors** • **Per building**

Interior Spaces - Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining. The original screen porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor.	• **5,583 s.f.**

However, water damage to the flooring was observed as well as visible standing water on flooring materials.	
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Original covered screen porch has been enclosed; however, some walls are vandalized and damaged.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **5,583 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

Character Defining features	
• **Roofing –** Replace entire composition shingle roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **5,583 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **3,700 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**

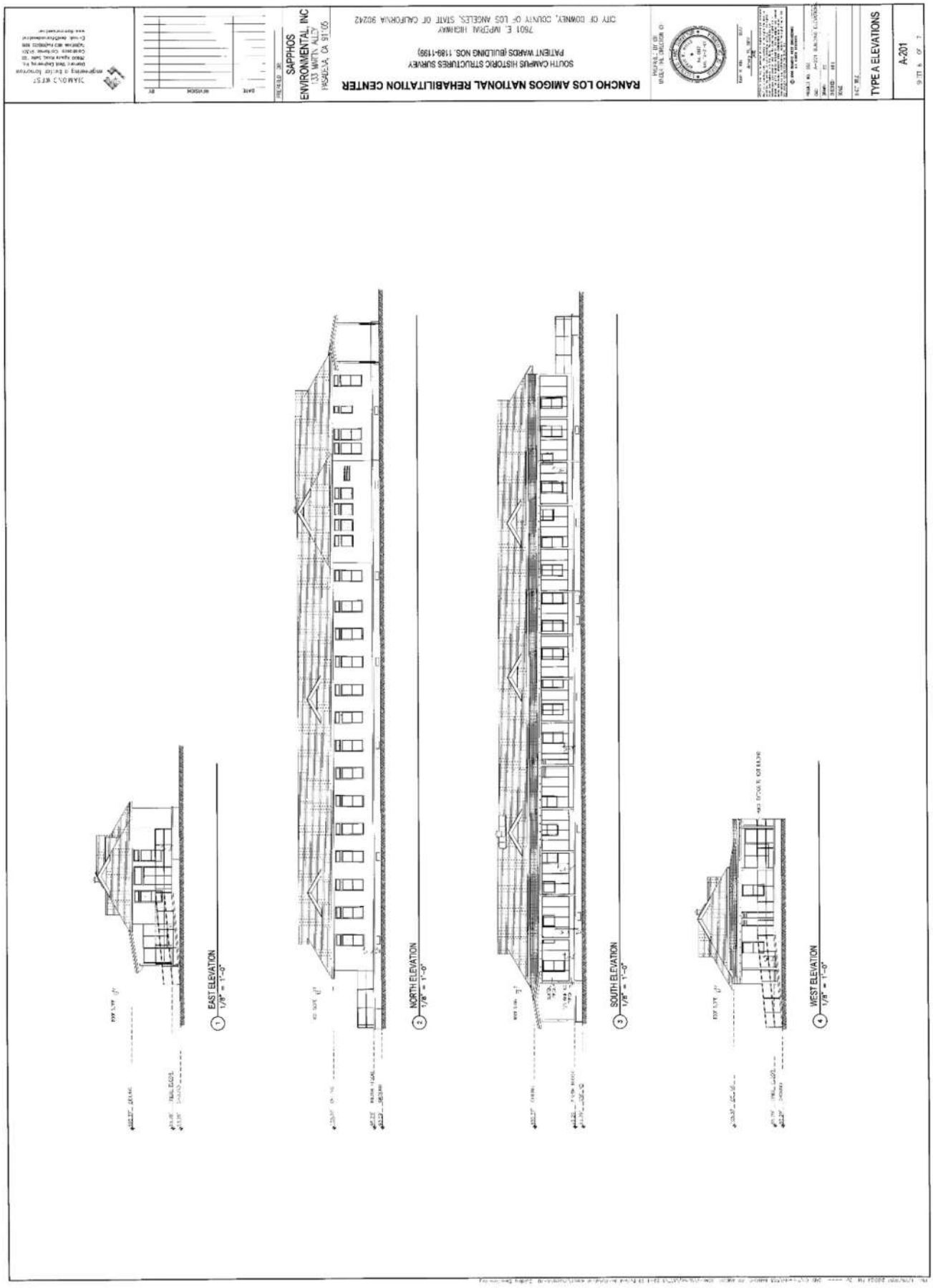
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **52 wood windows**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **5,000 s.f. courtyard.** • **8 total for 40,000 s.f.**

Interior Spaces

It is assumed that this 5,583 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **5,583 s.f.**
• **Walls –** Remove paint from masonry and all damaged plaster, repair in-kind per Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **5,593 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 l.f**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	

• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restroom core, 4 fixtures, sinks**
• **Electrical** – Provide new 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in rear location and provide with new railings and new maximum slope of 8%	

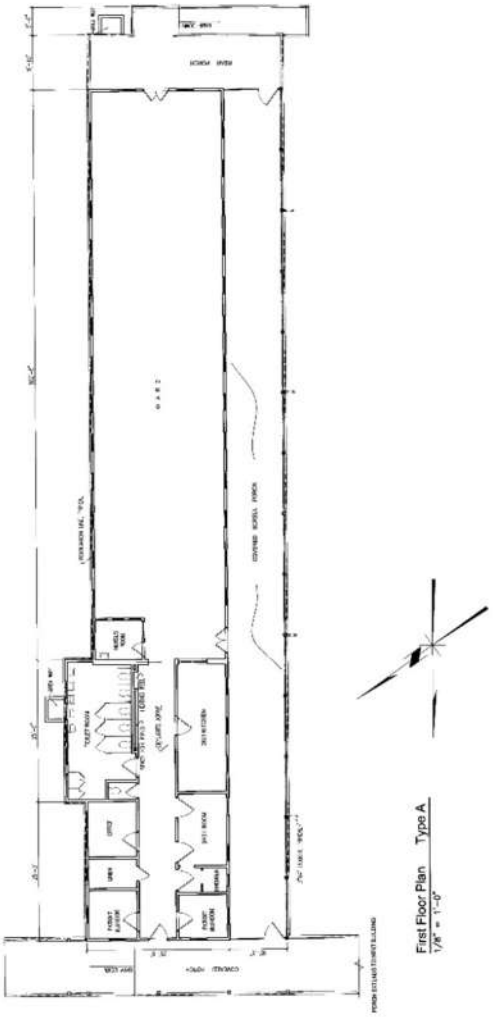

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATTENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A ELEVATIONS
A-201
EAST ELEVATION
1/8" = 1'-0"
NORTH ELEVATION
1/8" = 1'-0"
SOUTH ELEVATION
1/8" = 1'-0"
WEST ELEVATION
1/8" = 1'-0"

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242

SAPPHOS ENVIRONMENTAL, INC
131 MARIN ALLEY
PASADENA, CA 91105

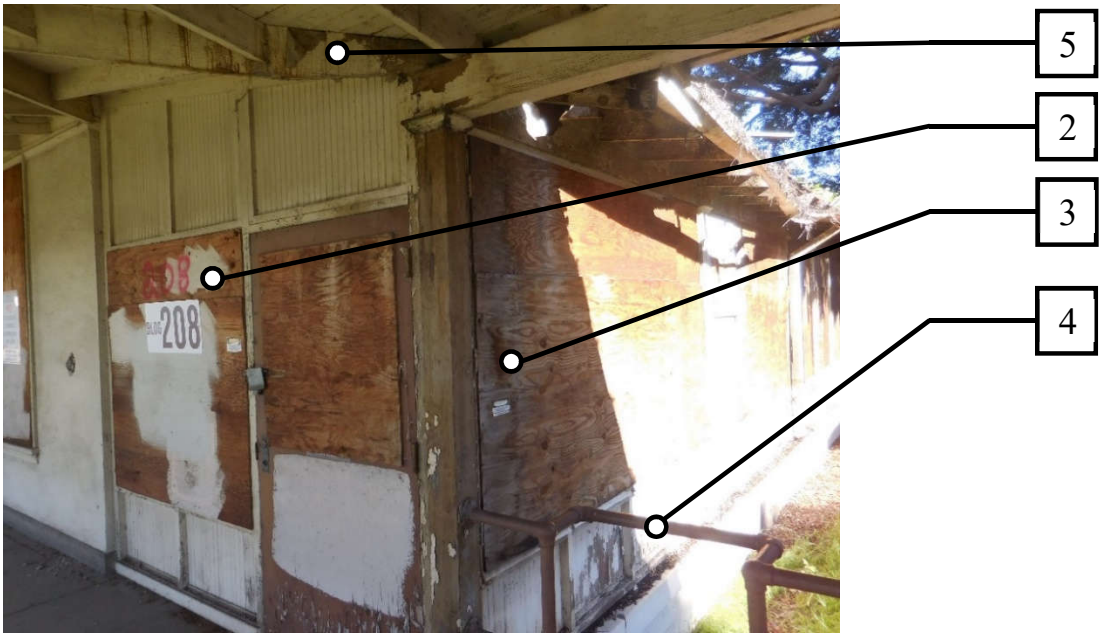
TYPE A FLOOR PLAN

A-101



First Floor Plan Type A
1/8" = 1'-0"

South Elevation with Veranda



Entry doors and window covered in plywood

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.

Interior Hallway

Hallway Skylight

9. Repair existing skylight.
10. Remove interior debris.

B LACO No. 1196 (Patient Ward 208) – Structural Assessment Report

Structural Assessment: Patient Ward Building 208
(LACO NO. 1196)

Summary of Assessment
This building was constructed between 1923-1928, as part of a set of Patient Ward buildings. This report describes conditions representative of the entire set of buildings, and the suggested upgrades are recommended for the set as a whole. Some of the original plans were available for review. The Patient Ward buildings are single-story wood structures on concrete slabs and foundations with a 10-foot ceiling height. The walls are constructed of plaster over wood lath, a type of construction that is no longer used. The buildings contain numerous structural members that are deteriorated and may pose a threat to the buildings and their occupants in the event of a seismically induced ground movement.

This building is in poor condition. Deterioration and damage were observed throughout the structure, particularly in the roof framing and sheathing. Additionally, the building does not appear to have an adequate lateral-force-resisting system. Strengthening and new connections will be needed throughout the building, including at the roof, walls, foundation, and veranda. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this Patient Ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building
The typical building footprint is approximately 163 feet by 34 feet with the longer dimension running north-south. The gable roofing is composed of a shingle roof over ½-inch by 4-inch straight sheathing on 2 x 6 rafters at 24 inches on center. The roof rafters and ceiling joists are tied together with 2x web members to form field-constructed carpenter trusses at 24 inches on center.

The exterior walls around the main building supports are made of stucco plaster over metal lath on 2 x 4 wood studs. The interior walls are 2x wood stud walls with wood lath and plaster. The building has a raised wood floor consisting of wood framing with wood plank flooring. Water damage has likely deteriorated the floor framing in many areas, and a large portion of the framing will likely need to be replaced. The floor is supported on interior concrete pedestals and footings which create a 30-inch open crawl space. The exterior walls are supported by a continuous foundation.

Condition Assessment
The wood framing of these structures generally appears to be in poor condition. A large portion of existing wood elements may need replacement, repair, or strengthening. Deterioration of wood members exists in many areas where the floor, walls, and roof are exposed. Broken floor, wall, and roof sheathing was also observed in some places, as shown in Figure 1 through 4. There is some ceiling and wall damage due to water leaks; the wood members inside the ceiling and wall are likely damaged in these areas. The exposed rafters show a clear sign of decay, as seen in Figure 5[1]. Visual inspection revealed that some of the rafters are also heavily damaged. Figure 6 shows the deterioration of the external wall trim and paneling due to long-term exposure to the elements.

The ceilings are typically wood lath and plaster, which is heavy and subject to weakening due to prolonged moisture. Some rooms have ceiling tiles glued to drywall. Both types of ceiling pose a potential falling hazard, as the heavy plaster or the ceiling tiles could fall, cause injury, and block egress in a seismic event. In many areas, large portions

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

of ceiling or full tiles have already detached from the building. The ceilings should be completely removed and replaced.

Figure 7 shows major cracks found on the west side of one of the Patient Ward buildings. Moreover, reinforcement exposed by delamination of concrete was noticed at a porch foundation, as shown in Figure 8. The deterioration shown in these photos is typical for the set of buildings.

The veranda structure, which provides a walkway connecting the front entrances of all the Patient Ward buildings, also has signs of deterioration. The fascia at each side is completely deteriorated, as shown in Figure 9, and much of the wood framing for the veranda roof displays signs of dry rot, as shown in Figure 10. It is likely that 50 to 100% of the framing will need to be replaced. The veranda roof is supported on 6 x 6 wood posts on each side of the walkway. As seen in Figure 11, it is apparent that the posts have been exposed to severe weather conditions, and in some cases, are badly damaged at the base.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. The building's light-weight construction significantly reduces the forces and stresses induced on the building during an earthquake. This is likely the reason why the Patient Ward buildings appear to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, these buildings would be expected to perform below the life-safety standard. The existing roof and wall construction can withstand very little lateral force. In addition, the cripple wall below the floor will be subjected to a high amount of movement and shear stress.

Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

The cracks and delamination of concrete at the foundation are not expected to significantly compromise the integrity of the building. The concrete foundation appears to be in fair condition for a building of this age.

There are several concerns with the veranda at the south side of the buildings. The deterioration of the posts will likely continue, which could lead to partial collapse even without a seismic event. The posts are not positively connected to the roof or the foundation, as shown in Figure 12 and 13, which, in the event of an earthquake, could cause the structure to separate and may lead to collapse. Additionally, the veranda structure and the Patient Ward buildings will likely try to move independently from each other, but the veranda is currently attached to all buildings. This connection between the veranda and the buildings could lead to damaged roof framing and potential falling hazards and safety risks. A seismic separation should be added at each building (adding a new post adjacent to the separation to support the veranda roof as depicted in Figure 14), and the posts should be bolted to the roof and foundation.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be needed at every wall. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning

north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Add a series of cantilevered steel columns at the sun porch to vertically and laterally support the roof framing and maintain the character-defining full-height windows. The new cantilevered columns will require new concrete caisson footings.
- Steel shear panels or new plywood sheathing will need to be added to all exterior walls (other than the sun porch outer wall) and to all interior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new cripple wall supports and new shallow foundations.
- Add hold downs at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove (and replace) existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace deteriorated wood members (roof and wall framing) as needed.
- Install concrete pier supports as needed beneath interior bearing walls.
- Replace wood flooring where holes or damage occur.
- Remove and replace plaster ceilings and ceiling tiles.
- Repair floor where differential settlement has led to deformed or broken framing.
- Upgrade foundations throughout the building.

Veranda

- Replace the fascia.
- Replace any roof framing damaged by dry rot, termites, or other causes. It is likely that 40 to 80% of the framing will need to be replaced.
- Replace posts with steel cantilever columns (wrapped with wood finish). Provide bolted connections to foundation and veranda roof.
- Provide expansion joints in the veranda between buildings (See Figure 14).
    - Provide shoring to temporarily support the structure while joints are created.
    - Cut a joint across the width of the veranda roof and add a secondary post near the joint at the north side. Eight joints and new posts total are expected.
- Disconnect the existing handrails from the wood posts; provide new handrail support to slab or to new posts.

Figure 1: Damaged roof structure

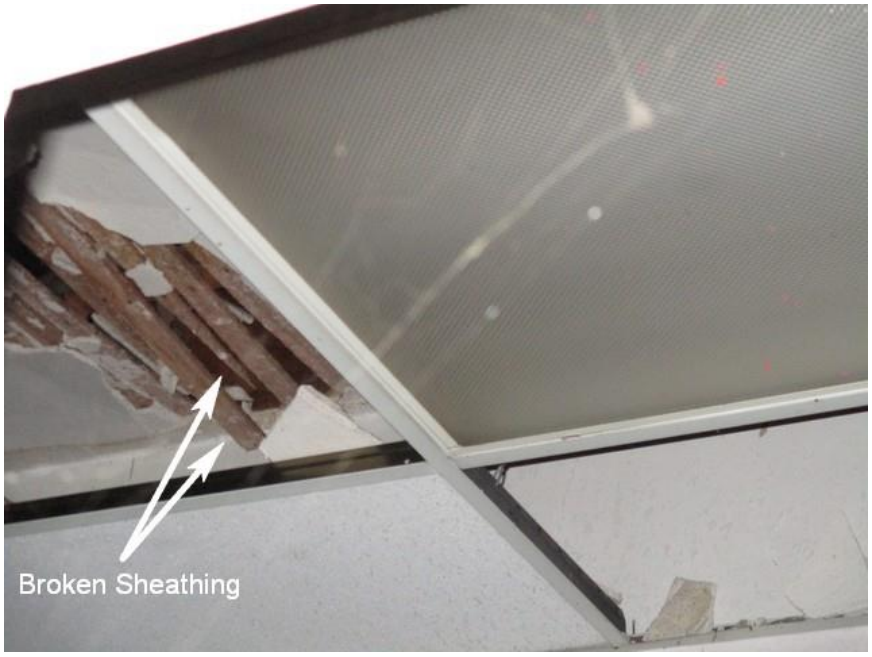


Figure 2: Fallen ceiling and damaged sheathing

Figure 3: Broken floor sheathing

Figure 4: Damaged wood lath and plaster wall (interior)

Figure 5: Decay of exposed rafters

Figure 6: Deterioration of exterior trim and paneling

Figure 7: Foundation cracks

Figure 8: Exposed rebar at crawl space

Figure 9: Fully deteriorated fascia at veranda

Figure 10: Deterioration and dry rot of veranda roof framing

Figure 11: Deteriorated post base

Figure 12: Lack of connection between post base and foundation

Figure 13: Lack of connection between post and roof framing

Figure 14: Recommended seismic joint upgrades at veranda

C LACO No. 1196 (Patient Ward 208) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Patient Ward 208 (LACO 1196)

Feasibility Study Cost Plan — Patient Ward 208 (LACO 1196)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 208 (LACO 1196)		5,583	464.80	2,595
SUB-TOTAL BUILDING CONSTRUCTION			5,583	464.80	2,595
S1	Sitework		5,000	83.00	415
	Premium for enhanced sustainable site features				45
SUB-TOTAL SITEWORK					460
TOTAL BUILDING AND SITEWORK					**3,055**
Escalation to Midpoint (Jul 2021)		11.7%			356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			273
	Project Management Consultant Services	3.0%			111
	FF & E	5.8%			220
	Taxes and Indirect Fees	1.0%			40
	Building Permit and Other Agency Fees	1.5%			61
	Owner Contingency/Construction Contingency	25.0%			1,029
Recommended Budget					***5,145***

MGAC

Feasibility Study Cost Plan — Patient Ward 208 (LACO 1196) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,583		
TOTAL GROSS FLOOR AREA	**5,583**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.179
Gross Area		5,583	SF	1.000
Enclosed Area		5,583	SF	1.000
Covered Area		1,630	SF	0.292
Footprint Area		5,583	SF	1.000
Gross Wall Area		3,700	SF	0.663
Finished Wall Area		3,700	SF	0.663
Windows or Glazing	30%	1,100	SF	0.197
Roof Area - Sloping		6,200	SF	1.111
Roof Area - Total		6,200	SF	1.111
Roof Glazing Area		50	SF	0.009
Interior Partitions		185	LF	0.033
Finished Area		5,583	SF	1.000

MGAC

Feasibility Study Cost Plan — Patient Ward 208 (LACO 1196) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,583 SF	
A10	Foundations		2%	10.00	56
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	56
B10	Superstructure		7%	34.16	191
B20	Exterior Enclosure		11%	48.84	273
B30	Roofing		5%	25.22	141
B	Shell		23%	108.23	604
C10	Interior Construction		2%	11.43	64
C20	Stairways		0%	0.00	0
C30	Interior Finishes		10%	45.85	256
C	Interiors		12%	57.28	320
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.58	109
D30	Heating, Ventilation & Air Cond.		10%	47.20	264
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		18%	81.43	455
D	Services		33%	155.21	867
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	19.61	110
E	Equipment & Furnishings		4%	19.61	110
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	13.66	76
F	Special Construction & Demolition		3%	13.66	76
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	363.99	2,032
Z10	Design Contingency	10.00%	8%	36.40	203
Z11	General Requirements	4.00%	3%	16.02	89
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	416.41	2,325
Z21	General Conditions	6.00%	5%	24.98	139
Z22	Bonds & Insurance	1.50%	1%	6.62	37
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.80	94
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	464.82	2,595
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	464.80	2,595

MGAC

Feasibility Study Cost Plan — Patient Ward 208 (LACO 1196)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				55,830
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	5,583	SF	10.00	55,830
A1030 Slab On Grade				
Remove/replace ramp including railings				site
				55,830
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				43,541
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 10%	600	SF	40.00	24,000
Lightweight concrete topping, 1 1/2"	5,583	SF	3.50	19,541
B1020 Roof Construction				147,200
Repair/replace deteriorated roof structure; allow 50%	3,100	SF	30.00	93,000
Strengthen wall and diaphragm connection, provide new roof sheathing	6,200	SF	8.50	52,700
Provide expansion joints between veranda and building	1	LS	1,500.00	1,500
				190,741

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				148,000
Strengthening of existing exterior walls; add shear panels to interior and exterior	3,700	SF	7.00	25,900
Weather barrier at exterior walls	3,700	SF	2.50	9,250
Plaster and repaint throughout exterior walls	3,700	SF	14.00	51,800
Plaster and repaint throughout interior face of exterior walls	3,700	SF	13.00	48,100
Loose fill insulation	3,700	SF	3.50	12,950
Veranda				*Sitework*
B2020 Exterior Windows				115,500
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	825	SF	100.00	82,500
New windows similar kind, high performance glazing; allow 25%	275	SF	120.00	33,000
B2030 Exterior Doors				9,200
New exterior doors	4	EA	2,300.00	9,200
				272,700
B30 Roofing				
B3010 Roof Coverings				133,300
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	6,200	SF	21.50	133,300
B3020 Roof Openings				7,500
Repair existing skylight framing, allow for new glazing and sealant	50	SF	150.00	7,500
				140,800
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000

	Quantity	Unit	Rate	Total
C1020 Interior Doors				21,500
New wood doors including frames and hardware	10	EA	2,150.00	21,500
C1030 Fittings				30,332
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,583	SF	4.00	22,332
				63,832
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				21,500
Repair damaged wall plaster and repaint - interior partitions, allow 30%	1,100	SF	13.00	14,300
Ceramic wall tiles to toilets	400	SF	18.00	7,200
C3020 Floor Finishes				39,081
New floor finishes including base	5,583	SF	7.00	39,081
Repair existing flooring				*n/a*
C3030 Ceiling Finishes				195,405
New gypsum plaster ceiling	5,583	SF	35.00	195,405
				255,986
D10 Conveying Systems				
				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				30,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	3,750.00	3,750
D2030 Sanitary Waste				40,749
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,583	SF	2.00	11,166
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,583	SF	1.00	5,583
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,749
Surface water drainage				
Roof & overflow drains, < = 6"	5,583	SF	3.00	16,749
D2090 Other Plumbing Systems				5,583
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,583.00	5,583
				109,331

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				60,601
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	275	mbth	27.50	7,563
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,583	SF	1.50	8,375
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,583	SF	8.00	44,664
D3040 Distribution Systems				126,839
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,979	LB	12.00	83,745
Dampers	1	LS	8,374.50	8,375
Insulation	5,234	SF	4.50	23,553
Diffusers, registers and grilles	5,583	SF	2.00	11,166
D3050 Terminal & Package Units				40,583
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,583
D3060 Controls and Instrumentation				25,124
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,583	SF	4.50	25,124
D3070 Systems Testing & Balancing				8,375
Test and balance air systems	5,583	SF	1.50	8,375
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				263,521

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				39,081
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,583	SF	7.00	39,081
				39,081
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				105,666
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	35	kVA	975.00	34,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,583	SF	3.50	19,541
D5020 Lighting & Branch Wiring				223,320
User convenience power				
Panel board breakers, 120 V circuits	5,583	SF	2.00	11,166
Receptacles, including conduit and cable	5,583	SF	5.50	30,707
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,583	SF	27.50	153,533

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,583	SF	5.00	27,915
D5030 Communications & Security				78,162
Telephone and communications				
Telephone/data - including conduit & cable	5,583	SF	6.50	36,290
WAP	5,583	SF	1.00	5,583
DAS - Emergency response & cellular	5,583	SF	4.00	22,332
Cable tray/wire-way/j-hooks	5,583	SF	1.00	5,583
Audiovisual rough-in	5,583	SF	1.50	8,375
D5090 Other Electrical Systems				47,456
Fire alarm systems	5,583	SF	4.50	25,124
Security - perimeter access control & CCTV surveillance	5,583	SF	4.00	22,332
				454,603

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				109,500
Cabinets, countertops shelving and millwork	100	LF	900.00	90,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	1,100	SF	15.00	16,500
Entrance mat				*n/a*
				109,500

F10 Special Construction

				0

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				34,384
Selective demolition				
Exterior window	275	SF	5.00	1,375
Doors	14	EA	150.00	2,100
Roofing including roof sheathing	6,200	SF	1.00	6,200
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,583	SF	3.00	16,749
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	3,720	SF	2.00	7,440
F2020 Hazardous Components Abatement				41,873
Hazmat abatement - allowance	5,583	SF	7.50	41,873
				76,257

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Patient Ward 208 (LACO 1196)				
Gross Site Area	10,600	SF		
Building footprint	5,583	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site Improvement				
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	20.00	100,000
Premium for permeable paving	2,500	SF	13.00	32,500
Veranda				
Replace wood columns with steel columns (wrapped with wood finish), provide bolted	6	EA	1,200.00	7,200
Provide expansion joints between veranda and building	1	LS	2,500.00	2,500
Replace deteriorated roof framing; allow 60%	1,000	SF	13.00	13,000
Provide new handrail support	75	LF	125.00	9,375
Replace wood fascia	75	LF	30.00	2,250
New roof sheathing	1,630	SF	3.50	5,705
New roof shingles including waterproofing membrane and flashing	1,630	SF	20.00	32,600
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Lighting	1	LS	10,000.00	10,000
Site Utilities including site lighting and drainage	5,000	SF	15.00	75,000
Alternate Cost Before Markups				**325,130**
Z10 Design Contingency	10.00%			32,513
Z11 General Requirements	4.00%			14,306
Z21 General Conditions	6.00%			22,317
Z22 Bonds & Insurance	1.50%			5,914
Z23 Contractor's Overhead, Profit & Fee	3.75%			15,007
				415,186

D LACO No. 1196 (Patient Ward 208) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Patient Ward 208 #1196

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Patient Ward 208 (LACO #1196) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Patient Ward 208 #1196 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Patient Ward 208 (LACO #1196), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction*

		system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior*

		spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building.

		Refer to the recommendations for landscape maintenance above.
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIODIC MAINTENANCE

PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Entry door and window plywood covering.	
2	Veranda on south/west elevation	

3	Interior condition	
4	Courtyard	

E LACO No. 1196 (Patient Ward 208) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Patient Ward 208 (LACO 1196)

MGAC

Mothballing Cost Plan — Patient Ward 208 (LACO 1196)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 208 (LACO 1196)		5,583	37.61	210
TOTAL BUILDING CONSTRUCTION			5,583	37.61	210
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**210**
Escalation to Midpoint (Jul 2021)		11.7%			24
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			5
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			25
Recommended Budget					***279***

MGAC

Mothballing Cost Plan — Patient Ward 208 (LACO 1196)

Item Description	Quantity	Unit	Rate	Total
1.) Patient Ward 208 (LACO 1196)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,583***	***SF***		
Gross Wall Area	***3,700***	***SF***		
Roof Area	***6,200***	***SF***		
Windows Area	***1,100***	***SF***		
Gross Site Area	***10,600***	***SF***		
Building footprint	***5,583***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	5,583	SF	1.50	8,375
Repaint exterior walls	3,700	SF	2.00	7,400
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	1,100	SF	25.00	27,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,700	SF	0.10	370
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,200	SF	15.00	93,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,583	SF	0.25	1,396
Install smoke & fire detectors including wiring	5,583	SF	1.00	5,583
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,583	SF	0.75	4,187
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**163,561**
Z10 Design Contingency	15.00%			24,534
Z11 General Requirements	3.00%			5,643
Z21 General Conditions	3.00%			5,812
Z22 Bonds & Insurance	1.50%			2,993
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,595
				210,138

Feasibility Study Reports for LACO No. 1197 (Patient Ward 209)

Secondary Contributor

ESA

A LACO No. 1197 (Patient Ward 209) – Architectural Assessment Report

Patient Ward 209 (LACO 1197)

5,583 s.f.
Built 1926
Secondary Contributor to Historic District

Building description

One of eleven nearly identical buildings, Patient ward 209 (LACO No. 1197) is located on the corner of Descanso Street and Laurel Street and in the western anchor of a row of nine patient wards that spans the block between Hawthorn Avenue and Laurel Street. A continuous veranda along the Descanso Street elevations is the focal point of the grouping. Two additional patient wards are located west of Laurel street. Patient Ward 209 is a one-story, asymmetrical in appearance and vernacular in design. It is rectangular in plan and subsequently longer than it is wide. The wood-framed building is capped by a high-pitched, front-gable-on-hip roof with moderately over-hanging eaves, exposed rafter tails, and triangular brace supports. Composition shingles cover the roof. A gable projection is located at the south end of the west elevation roof. Vents composed of horizontal louvers fill the upper portions of the gable ends. Triangular dormer vents and skylights are located on the east and west elevations. The building sits on a concrete slab foundation, and the exterior walls are reinforced concrete covered in smooth stucco. The primary entrance faces south onto the veranda., which is characterized by a raised concrete foundation, a shed roof with exposed beams and trusses, square wood posts, and iron pipe railings. Plain wood trim with extended lintels frame the entry, whose original door has been replaced by a non -original metal door. A full-length, wood-framed, screened porch on the east elevation, capped by a shed roof projection, was enclosed to provide additional ward space. A secondary entrance, accessed by a concrete stoop, is located on the rear elevation; the rear door is also a metal replacement. Original fenestration on all elevations can generally be described as bands of original wood-frame, one-over-one, double-hung sash windows with transoms, irregularly arranged, whose plain wood casing are characterized by slightly extended lintels. Also present are wood-frame one-light hopper windows with transoms and double-casement windows. Wood slat awnings have been added to west facing windows. Concrete ramps and staircases with iron pipe railings provide access to the building.[1]

Statement of Significance

The significance of LACO No. 1197 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

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[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 209 (LACO No. 1197),* prepared for the County of Los Angeles June 2, 2008.

Patient Ward 209 (LACO No. 1197) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1928 during a large building initiative in the 1920s under the Los Angeles County Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933-1952). Thirteen patient wards were constructed between 1923 and 1928 to treat chronically ill patients, marking the evolution of the mission of the County Farm from the housing and care of indigents to a long-term hospital facility. This building is one of the eleven extant examples of this property type in the Historic District. Although the building has been somewhat altered, its exterior appearance still reflects its period of construction. A vernacular style building, it retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features: horizontal-massing and rectangular plan; continuous veranda on a raised foundation; high-pitched complex roof consisting of gable and hipped projections; linear bands of windows; and projecting screened porches. Its setting has been altered through the loss of westernmost two of the original ward buildings in the late 1990s, and the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

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[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Patient Ward 209 (LACO No. 1197),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **6,200 s.f. Approx. per building,** • **82,000 for all patient wards and veranda.**
• **Covered veranda –** Wood joists are deteriorated. Railing in need of replacement.	• **1,630 at each building**
• **Exterior walls –** Exterior plaster is damaged in minimal amount of areas. It is repairable in most areas.	• **3,700 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **52 wood windows** • **4 exterior doors** • **Per building**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining. The original screen porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor.	• **5,583 s.f.**

However, water damage to the flooring was observed as well as visible standing water on flooring materials.	
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Original covered screen porch has been enclosed; however, some walls are vandalized and damaged.	• **3,700 s.f.**
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **5,583 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

Character Defining features	
• **Roofing –** Replace entire composition shingle roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **5,583 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **10% of walls to be repaired. 3,500 s.f total of walls, 350 sf. Plaster repair.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors, 2 pair and 2 singles**

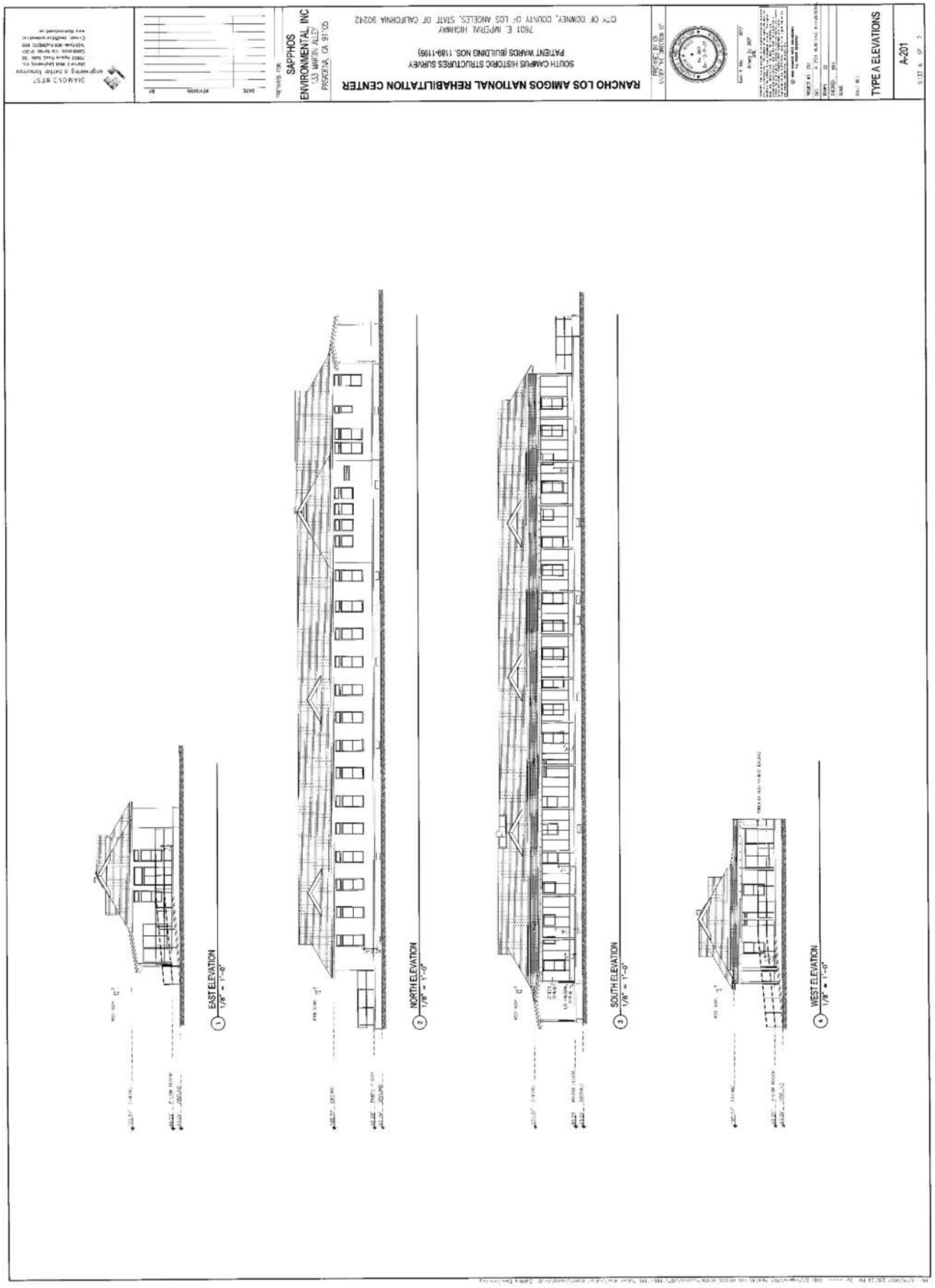
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **52 wood windows** • **25% windows replaced in kind.**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **5,000 s.f. courtyard.** • **8 total for 40,000 s.f.**

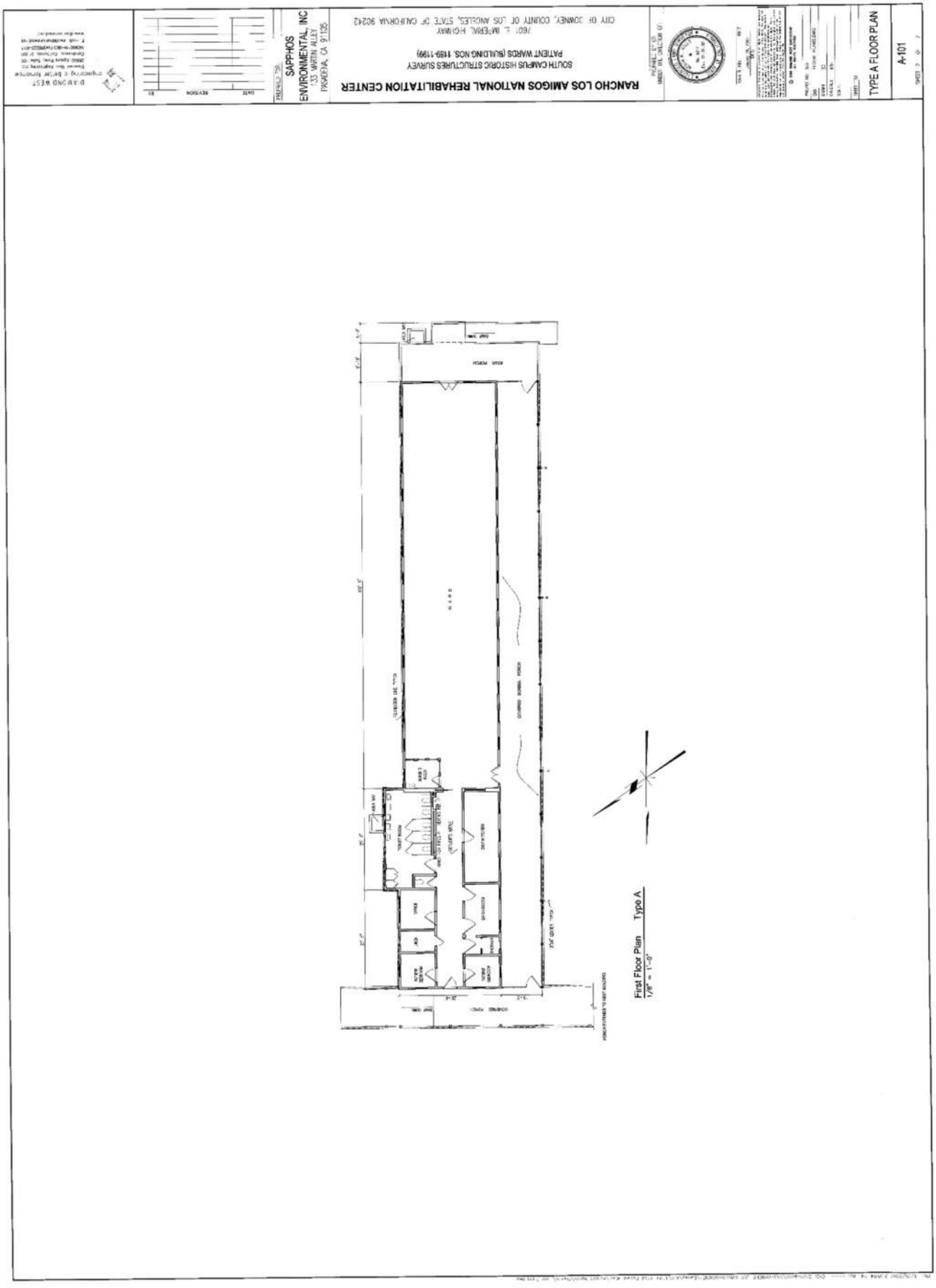
Interior Spaces

It is assumed that this 5,583 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 50% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **5,583 s.f.**
• **Walls –** Clean and repair exterior walls and all damaged plaster in-kind per Secretary of the Interior's Standards.	• **10% of walls to be repaired. 3,500 s.f total of walls, 350 sf. Plaster**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	• **5,583 s.f.**
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **5,583 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 lineal ft.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	

• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space. New restrooms to have one sink and two stalls per sex.	• **New restroom core.** • **4 fixtures – 2 sinks**
• **Electrical** – Provide new 400 Amp system.	
• **Title 24/ADA requirements –** New restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%	


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
SOUTH CAMPUS HISTORIC STRUCTURES SURVEY
PATIENT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A ELEVATIONS
A-201
EAST ELEVATION
1/8" = 1'-0"
NORTH ELEVATION
1/8" = 1'-0"
SOUTH ELEVATION
1/8" = 1'-0"
WEST ELEVATION
1/8" = 1'-0"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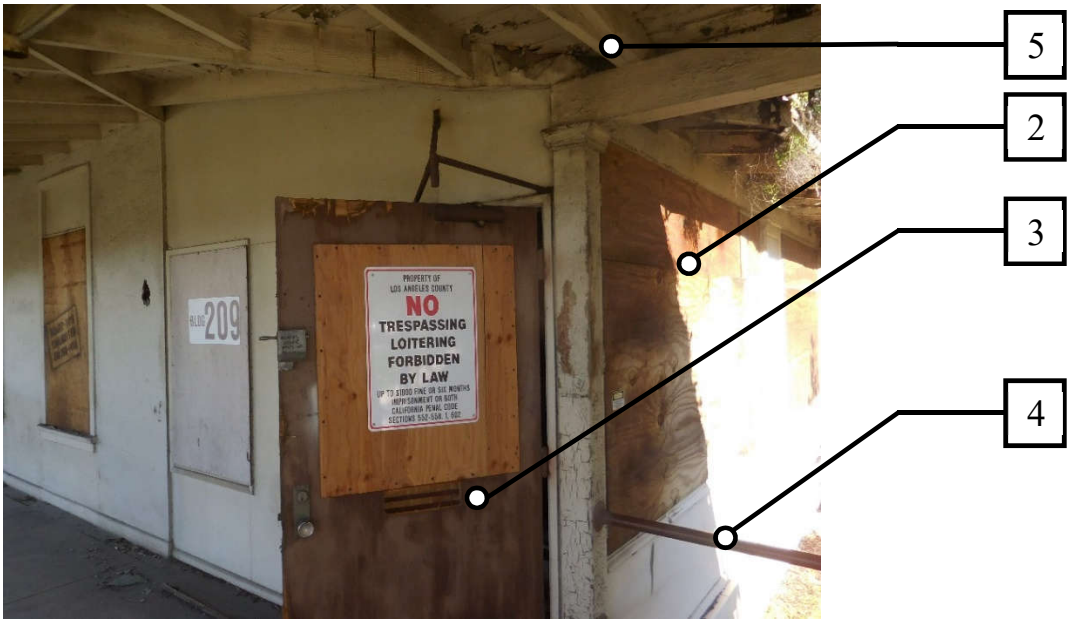
PATTERT WARDS (BUILDING NOS. 1189-1199)
7601 E. IMPERIAL HIGHWAY
CITY OF DOWNEY, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA 90242
SAPPHOS ENVIRONMENTAL, INC
TYPE A FLOOR PLAN
A-101
First Floor Plan Type A
1/8" = 1'-0"

South Elevation at Veranda



Entry door and windows covered with Plywood

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.

Veranda looking East

Interior Condition

1. Repair damaged plaster and repaint throughout.
2. Remove plywood, repair windows in place. Replace damaged windows “in-kind”.
3. Provide new exterior doors “in-kind”.
4. Remove and replace steel pipe handrails “in-kind”.
5. Remove damaged wood members, replace “in-kind”. Strip and paint throughout.
6. Remove all existing roofing and substructure and replace.
7. Strip and paint existing posts.
8. Remove all site debris, provide new landscape and hardscape.
9. Repair existing skylight.
10. Remove interior debris.

B LACO No. 1197 (Patient Ward 209) – Structural Assessment Report

Structural Assessment: Patient Ward Building 209
(LACO NO. 1197)

Summary of Assessment
This building was constructed between 1923-1928, as part of a set of Patient Ward buildings. This report describes conditions representative of the entire set of buildings, and the suggested upgrades are recommended for the set as a whole. Some of the original plans were available for review. The Patient Ward buildings are single-story wood structures on concrete slabs and foundations with a 10-foot ceiling height. The walls are constructed of plaster over wood lath, a type of construction that is no longer used. The buildings contain numerous structural members that are deteriorated and may pose a threat to the buildings and their occupants in the event of a seismically induced ground movement.

This building is in poor condition. Deterioration and damage were observed throughout the structure, particularly in the roof framing and sheathing. Additionally, the building does not appear to have an adequate lateral-force-resisting system. Strengthening and new connections will be needed throughout the building, including at the roof, walls, foundation, and veranda. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this Patient Ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building
The typical building footprint is approximately 160 feet by 30 feet with the longer dimension running north-south. The gable roofing is composed of a shingle roof over ½-inch by 4-inch straight sheathing on 2 x 6 rafters at 24 inches on center. The roof rafters and ceiling joists are tied together with 2x web members to form field-constructed carpenter trusses at 24 inches on center.

The exterior walls around the main building supports are made of stucco plaster over metal lath on 2 x 4 wood studs. The interior walls are 2x wood stud walls with wood lath and plaster. The building has a raised wood floor consisting of wood framing with wood plank flooring. Water damage has likely deteriorated the floor framing in many areas, and a large portion of the framing will likely need to be replaced. The floor is supported on interior concrete pedestals and footings which create a 30-inch open crawl space. The exterior walls are supported by a continuous foundation.

Condition Assessment
The wood framing of these structures generally appears to be in poor condition. A large portion of existing wood elements may need replacement, repair, or strengthening. Deterioration of wood members exists in many areas where the floor, walls, and roof are exposed. Broken floor, wall, and roof sheathing was also observed in some places, as shown in Figure 1 through 4. There is some ceiling and wall damage due to water leaks; the wood members inside the ceiling and wall are likely damaged in these areas. The exposed rafters show a clear sign of decay, as seen in Figure 5[1]. Visual inspection revealed that some of the rafters are also heavily damaged. Figure 6 shows the deterioration of the external wall trim and paneling due to long-term exposure to the elements.

The ceilings are typically wood lath and plaster, which is heavy and subject to weakening due to prolonged moisture. Some rooms have ceiling tiles glued to drywall. Both types of ceiling pose a potential falling hazard, as the heavy plaster or the ceiling tiles could fall, cause injury, and block egress in a seismic event. In many areas, large portions

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

of ceiling or full tiles have already detached from the building. The ceilings should be completely removed and replaced.

Figure 7 shows major cracks found on the west side of one of the Patient Ward buildings. Moreover, reinforcement exposed by delamination of concrete was noticed at a porch foundation, as shown in Figure 8. The deterioration shown in these photos is typical for the set of buildings.

The veranda structure, which provides a walkway connecting the front entrances of all the Patient Ward buildings, also has signs of deterioration. The fascia at each side is completely deteriorated as shown in Figure 9, and much of the wood framing for the veranda roof displays signs of dry rot, as shown in Figure 10. It is likely that 50 to 100% of the framing will need to be replaced. The veranda roof is supported on 6 x 6 wood posts on each side of the walkway. As seen in Figure 11, it is apparent that the posts have been exposed to severe weather conditions, and in some cases, are badly damaged at the base.

Evaluation of Structural Performance

Generally, wood structures are the ideal building type for good earthquake performance. The building's light-weight construction significantly reduces the forces and stresses induced on the building during an earthquake. This is likely the reason why the Patient Ward buildings appear to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, these buildings would be expected to perform below the life-safety standard. The existing roof and wall construction can withstand very little lateral force. In addition, the cripple wall below the floor will be subjected to a high amount of movement and shear stress.

Measures must be taken to strengthen the roof and walls of this structure. Measures must also be taken to properly join the foundation to the walls and the walls to the roof in order to complete a full load path. With these improvements, this building should perform to desirable levels.

The cracks and delamination of concrete at the foundation are not expected to significantly compromise the integrity of the building. The concrete foundation appears to be in fair condition for a building of this age.

There are several concerns with the veranda at the south side of the buildings. The deterioration of the posts will likely continue, which could lead to partial collapse even without a seismic event. The posts are not positively connected to the roof or the foundation, as shown in Figure 12 and 13, which, in the event of an earthquake, could cause the structure to separate and may lead to collapse. Additionally, the veranda structure and the Patient Ward buildings will likely try to move independently from each other, but the veranda is currently attached to all buildings. This connection between the veranda and the buildings could lead to damaged roof framing and potential falling hazards and safety risks. A seismic separation should be added at each building (adding a new post adjacent to the separation to support the veranda roof as depicted in Figure 14), and the posts should be bolted to the roof and foundation.

Summary of Proposed Upgrades

The expected seismic performance of the building, in its current condition, is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be needed at every wall. It is recommended that a uniform approach be used for all walls spanning east-west, and a uniform approach (whether the same or different) be used for all walls spanning

north-south. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Add a series of cantilevered steel columns at the sun porch to vertically and laterally support the roof framing and maintain the character-defining full-height windows. The new cantilevered columns will require new concrete caisson footings.
- Steel shear panels or new plywood sheathing will need to be added to all exterior walls (other than the sun porch outer wall) and to all interior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new cripple wall supports and new shallow foundations.
- Add hold downs at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove (and replace) existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing straight sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace deteriorated wood members (roof and wall framing) as needed.
- Install concrete pier supports as needed beneath interior bearing walls.
- Replace wood flooring where holes or damage occur.
- Remove and replace plaster ceilings and ceiling tiles.
- Repair floor where differential settlement has led to deformed or broken framing.
- Upgrade foundations throughout the building.

Veranda

- Replace the fascia.
- Replace any roof framing damaged by dry rot, termites, or other causes. It is likely that 40 to 80% of the framing will need to be replaced.
- Replace posts with steel cantilever columns (wrapped with wood finish). Provide bolted connections to foundation and veranda roof.
- Provide expansion joints in the veranda between buildings (See Figure 14).
    - Provide shoring to temporarily support the structure while joints are created.
    - Cut a joint across the width of the veranda roof and add a secondary post near the joint at the north side. Eight joints and new posts total are expected.
- Disconnect the existing handrails from the wood posts; provide new handrail support to slab or to new posts.

Figure 1: Damaged roof structure

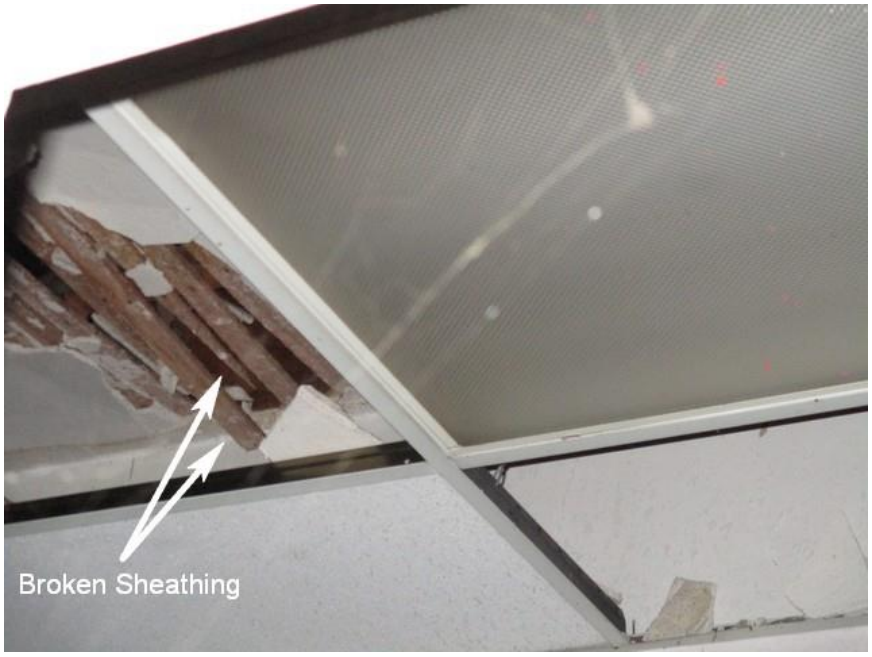


Figure 2: Fallen ceiling and damaged sheathing

Figure 3: Broken floor sheathing

Figure 4: Damaged wood lath and plaster wall (interior)

Figure 5: Decay of exposed rafters

Figure 6: Deterioration of exterior trim and paneling

Figure 7: Foundation cracks

Figure 8: Exposed rebar at crawl space

Figure 9: Fully deteriorated fascia at veranda

Figure 10: Deterioration and dry rot of veranda roof framing

Figure 11: Deteriorated post base

Figure 12: Lack of connection between post base and foundation

Figure 13: Lack of connection between post and roof framing

Figure 14: Recommended seismic joint upgrades at veranda

C LACO No. 1197 (Patient Ward 209) – Preservation/Adaptive Reuse Cost Plan

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Feasibility Study Cost Plan

Patient Ward 209 (LACO 1197)

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Feasibility Study Cost Plan — Patient Ward 209 (LACO 1197)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 209 (LACO 1197)		5,583	464.80	2,595
SUB-TOTAL BUILDING CONSTRUCTION			5,583	464.80	2,595
S1	Sitework		5,000	83.00	415
	Premium for enhanced sustainable site features				45
SUB-TOTAL SITEWORK					460
TOTAL BUILDING AND SITEWORK					**3,055**
Escalation to Midpoint (Jul 2021)		11.7%			356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			273
	Project Management Consultant Services	3.0%			111
	FF & E	5.8%			220
	Taxes and Indirect Fees	1.0%			40
	Building Permit and Other Agency Fees	1.5%			61
	Owner Contingency/Construction Contingency	25.0%			1,029
Recommended Budget					***5,145***

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Feasibility Study Cost Plan — Patient Ward 209 (LACO 1197) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,583		
TOTAL GROSS FLOOR AREA	**5,583**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.179
Gross Area		5,583	SF	1.000
Enclosed Area		5,583	SF	1.000
Covered Area		1,630	SF	0.292
Footprint Area		5,583	SF	1.000
Gross Wall Area		3,700	SF	0.663
Finished Wall Area		3,700	SF	0.663
Windows or Glazing	30%	1,100	SF	0.197
Roof Area - Sloping		6,200	SF	1.111
Roof Area - Total		6,200	SF	1.111
Roof Glazing Area		50	SF	0.009
Interior Partitions		185	LF	0.033
Finished Area		5,583	SF	1.000

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Feasibility Study Cost Plan — Patient Ward 209 (LACO 1197) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,583 SF	
A10	Foundations		2%	10.00	56
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	56
B10	Superstructure		7%	34.16	191
B20	Exterior Enclosure		11%	48.84	273
B30	Roofing		5%	25.22	141
B	Shell		23%	108.23	604
C10	Interior Construction		2%	11.43	64
C20	Stairways		0%	0.00	0
C30	Interior Finishes		10%	45.85	256
C	Interiors		12%	57.28	320
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	19.58	109
D30	Heating, Ventilation & Air Cond.		10%	47.20	264
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		18%	81.43	455
D	Services		33%	155.21	867
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	19.61	110
E	Equipment & Furnishings		4%	19.61	110
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	13.66	76
F	Special Construction & Demolition		3%	13.66	76
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	363.99	2,032
Z10	Design Contingency	10.00%	8%	36.40	203
Z11	General Requirements	4.00%	3%	16.02	89
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	416.41	2,325
Z21	General Conditions	6.00%	5%	24.98	139
Z22	Bonds & Insurance	1.50%	1%	6.62	37
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.80	94
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	464.82	2,595
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	464.80	2,595

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Feasibility Study Cost Plan — Patient Ward 209 (LACO 1197)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				55,830
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	5,583	SF	10.00	55,830
A1030 Slab On Grade				
Remove/replace ramp including railings				site
				55,830
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				43,541
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 10%	600	SF	40.00	24,000
Lightweight concrete topping, 1 1/2"	5,583	SF	3.50	19,541
B1020 Roof Construction				147,200
Repair/replace deteriorated roof structure; allow 50%	3,100	SF	30.00	93,000
Strengthen wall and diaphragm connection, provide new roof sheathing	6,200	SF	8.50	52,700
Provide expansion joints between veranda and building	1	LS	1,500.00	1,500
				190,741

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				148,000
Strengthening of existing exterior walls; add shear panels to interior and exterior	3,700	SF	7.00	25,900
Weather barrier at exterior walls	3,700	SF	2.50	9,250
Plaster and repaint throughout exterior walls	3,700	SF	14.00	51,800
Plaster and repaint throughout interior face of exterior walls	3,700	SF	13.00	48,100
Loose fill insulation	3,700	SF	3.50	12,950
Veranda				*Sitework*
B2020 Exterior Windows				115,500
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	825	SF	100.00	82,500
New windows similar kind, high performance glazing; allow 25%	275	SF	120.00	33,000
B2030 Exterior Doors				9,200
New exterior doors	4	EA	2,300.00	9,200
				272,700
B30 Roofing				
B3010 Roof Coverings				133,300
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	6,200	SF	21.50	133,300
B3020 Roof Openings				7,500
Repair existing skylight framing, allow for new glazing and sealant	50	SF	150.00	7,500
				140,800
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000

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Feasibility Study Cost Plan — Patient Ward 209 (LACO 1197)

	Quantity	Unit	Rate	Total
C1020 Interior Doors				21,500
New wood doors including frames and hardware	10	EA	2,150.00	21,500
C1030 Fittings				30,332
Toilet partitions and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,583	SF	4.00	22,332
				63,832

C20 Stairways

				0

C30 Interior Finishes

C3010 Wall Finishes				21,500
Repair damaged wall plaster and repaint - interior partitions, allow 30%	1,100	SF	13.00	14,300
Ceramic wall tiles to toilets	400	SF	18.00	7,200
C3020 Floor Finishes				39,081
New floor finishes including base	5,583	SF	7.00	39,081
Repair existing flooring				*n/a*
C3030 Ceiling Finishes				195,405
New gypsum plaster ceiling	5,583	SF	35.00	195,405
				255,986

D10 Conveying Systems

				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				30,250
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	3,750.00	3,750
D2030 Sanitary Waste				40,749
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,583	SF	2.00	11,166
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,583	SF	1.00	5,583
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,749
Surface water drainage				
Roof & overflow drains, < = 6"	5,583	SF	3.00	16,749
D2090 Other Plumbing Systems				5,583
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,583.00	5,583
				109,331

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				60,601
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	275	mbth	27.50	7,563
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,583	SF	1.50	8,375
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,583	SF	8.00	44,664
D3040 Distribution Systems				126,839
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,979	LB	12.00	83,745
Dampers	1	LS	8,374.50	8,375
Insulation	5,234	SF	4.50	23,553
Diffusers, registers and grilles	5,583	SF	2.00	11,166
D3050 Terminal & Package Units				40,583
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,583
D3060 Controls and Instrumentation				25,124
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,583	SF	4.50	25,124
D3070 Systems Testing & Balancing				8,375
Test and balance air systems	5,583	SF	1.50	8,375
D3090 Other HVAC Systems & Equipment				2,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	2,000.00	2,000
				263,521

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,583	SF	7.00	39,081
				39,081
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				105,666
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	800	AM	65.00	52,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	35	kVA	975.00	34,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,583	SF	3.50	19,541
D5020 Lighting & Branch Wiring				223,320
User convenience power				
Panel board breakers, 120 V circuits	5,583	SF	2.00	11,166
Receptacles, including conduit and cable	5,583	SF	5.50	30,707
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,583	SF	27.50	153,533

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,583	SF	5.00	27,915
D5030 Communications & Security				78,162
Telephone and communications				
Telephone/data - including conduit & cable	5,583	SF	6.50	36,290
WAP	5,583	SF	1.00	5,583
DAS - Emergency response & cellular	5,583	SF	4.00	22,332
Cable tray/wire-way/j-hooks	5,583	SF	1.00	5,583
Audiovisual rough-in	5,583	SF	1.50	8,375
D5090 Other Electrical Systems				47,456
Fire alarm systems	5,583	SF	4.50	25,124
Security - perimeter access control & CCTV surveillance	5,583	SF	4.00	22,332
				454,603

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				109,500
Cabinets, countertops shelving and millwork	100	LF	900.00	90,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	1,100	SF	15.00	16,500
Entrance mat				*n/a*
				109,500

F10 Special Construction

				0

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	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				34,384
Selective demolition				
Exterior window	275	SF	5.00	1,375
Doors	14	EA	150.00	2,100
Roofing including roof sheathing	6,200	SF	1.00	6,200
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,583	SF	3.00	16,749
Allow for clearing/removal of storage debris	8	MH	65.00	520
Demo and remove deteriorated roof framing; allow 60%	3,720	SF	2.00	7,440
F2020 Hazardous Components Abatement				41,873
Hazmat abatement - allowance	5,583	SF	7.50	41,873
				76,257

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Patient Ward 209 (LACO 1197)				
Gross Site Area	10,600	SF		
Building footprint	5,583	SF		
Net Site Area	5,000	SF		
General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
Site Improvement				
Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	20.00	100,000
Premium for permeable paving	2,500	SF	13.00	32,500
Veranda				
Replace wood columns with steel columns (wrapped with wood finish), provide bolted connections to foundation & roof	6	EA	1,200.00	7,200
Provide expansion joints between veranda and building	1	LS	2,500.00	2,500
Replace deteriorated roof framing; allow 60%	1,000	SF	13.00	13,000
Provide new handrail support	75	LF	125.00	9,375
Replace wood fascia	75	LF	30.00	2,250
New roof sheathing	1,630	SF	3.50	5,705
New roof shingles including waterproofing membrane and flashing	1,630	SF	20.00	32,600
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Lighting	1	LS	10,000.00	10,000
Site Utilities including site lighting and drainage	5,000	SF	15.00	75,000
Alternate Cost Before Markups				**325,130**
Z10 Design Contingency	10.00%			32,513
Z11 General Requirements	4.00%			14,306
Z21 General Conditions	6.00%			22,317
Z22 Bonds & Insurance	1.50%			5,914
Z23 Contractor's Overhead, Profit & Fee	3.75%			15,007
				415,186

D LACO No. 1197 (Patient Ward 209) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Patient Ward 209 #1197

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Patient Ward 209 (LACO #1197) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Patient Ward 209 #1197 is provided as part of the Feasibility Study with

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

additional information about the value and significance of specific features, materials, and finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Patient Ward 209 (LACO #1197), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or

	braced or reinforced.	alternative standards under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an*

		acceptable to a more durable construction system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and

		roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.*
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant

		buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a	Utilize qualified staff or retain a qualified company to determine if toxic droppings

	special company been brought in for its disposal?	are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and*

		observations • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as*

		recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*

S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*

PERIODIC MAINTENANCE

PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Entry door and window plywood covering.	
2	Veranda on south/west elevation	

3	Interior condition	
4	Courtyard	

E LACO No. 1197 (Patient Ward 209) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Patient Ward 209 (LACO 1197)

MGAC

Mothballing Cost Plan — Patient Ward 209 (LACO 1197)

			SF	$/SF	TOTAL $ x 1,000
B1	Patient Ward 209 (LACO 1197)		5,583	37.61	210
TOTAL BUILDING CONSTRUCTION			5,583	37.61	210
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**210**
Escalation to Midpoint (Jul 2021)		11.7%			24
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			5
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			25
Recommended Budget					***279***

MGAC

Mothballing Cost Plan — Patient Ward 209 (LACO 1197)

Item Description	Quantity	Unit	Rate	Total
1.) Patient Ward 209 (LACO 1197)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,583***	***SF***		
Gross Wall Area	***3,700***	***SF***		
Roof Area	***6,200***	***SF***		
Windows Area	***1,100***	***SF***		
Gross Site Area	***10,600***	***SF***		
Building footprint	***5,583***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	5,583	SF	1.50	8,375
Repaint exterior walls	3,700	SF	2.00	7,400
Protect existing openings (exterior doors)	4	EA	800.00	3,200
Install hard protection/boarding to windows	1,100	SF	25.00	27,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,700	SF	0.10	370
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,200	SF	15.00	93,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,583	SF	0.25	1,396
Install smoke & fire detectors including wiring	5,583	SF	1.00	5,583
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,583	SF	0.75	4,187
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**163,561**
Z10 Design Contingency	15.00%			24,534
Z11 General Requirements	3.00%			5,643
Z21 General Conditions	3.00%			5,812
Z22 Bonds & Insurance	1.50%			2,993
Z23 Contractor's Overhead, Profit & Fee	3.75%			7,595
				210,138

Feasibility Study Reports for LACO No. 1202 (Women's Psychiatric Ward)

Secondary Contributor

ESA

A LACO No. 1202 (Women's Psychiatric Ward) – Architectural Assessment Report

Women's Psychiatric Ward (LACO 1202)

22,927 s.f.
Built 1924
Secondary Contributor to Historic District

Building Description

Consisting of two buildings, the Women's Psychiatric Ward complex (LACO No. 1202) is located centrally in the block bounded by Golondrinas Street to the north, Erickson Avenue to the west, Dahlia Avenue to the east, and Consuelo Street to the south. The Women's Psychiatric Ward complex consists of two one-story brick vernacular style buildings, that was constructed in two stages; the first ward (LACO No. 1203) was built in 1919 and the second ward (LACO No. 1202) was built in 1924. The two buildings enclosed a large, interior courtyard. The overall quadrangle plans consist of two "H-shaped" ward buildings connected by one-story concrete block wall hyphens. The Women's Psychiatric Ward complex is symmetrical in appearance with horizontal massing. One story square projects bathroom wings surmounted by a hipped roof are located on the north and south elevations, and partial-width enclosed porches project from interior courtyard elevations. The exterior walls of both buildings in the complex are clad in painted brick laid in common bond pattern, with the exception of the west and north elevation of LACO No. 1203, which has replacement horizontal metal siding over the original brick walls. The roof configuration incorporates multiple medium-pitched hips and gable-on-hips with overhanging eaves; the roof is sheathed in composition shingles, with exposed beams and rafters that are visible underneath the eaves.

Gabled dormers with louvered vents project from the roof, and triangular vents are located in the gable ends. Galvanized iron skylights with wire glass are located just below the ridgeline on the north and south bathroom projections. Corbelled brick courses define the wall base and a cornice and frieze on the bathroom wings. Original windows (where extant) included four-over-four, double-hung sash windows; one-over-one light double-hung sash windows; one-light fixed windows; and four-over-four fixed windows. All windows are flat-headed and trimmed by slightly projecting header brick window sills. The primary entrance is centrally located on the west façade and is defined by partial-width porch with vertical posts supporting a front gable roof and a raised concrete walkway. Replacement metal windows are located throughout the building.[1]

Statement of Significance

The significance of LACO No. 1202 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort. Here it is important to

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1202),* prepared for the County of Los Angeles June 2, 2008.

note—for the sake of clarity—that at the time the DPR form was completed, the Women's Psychiatric Ward (LACO No. 1202) was described in conjunction with another nearly identical building—the Women's Psychiatric Ward (LACO No. 1203)—rather than treated as a separate entity as it is here for the purposes of the Feasibility Study. The DPR form described the significance of the property as follows:

> The Women's Psychiatric Wards (LACO Nos. 1202 and 1203) are significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The buildings were erected in 1919 and 1924 to house the mentally unstable female patients sent to the County Poor Farm by the Los Angeles County Hospital. The complex was built was during a large building imitative in the 1920s directed by the Poor Farm's most influential superintendent, William R. Harriman (1915-1931; 1933-1952). The first psychiatric facility at the Poor Farm was the Psychiatric Ward building, constructed in 1907 (now the Men's Psychiatric Ward (LACO No. 1205). This facility housed both males and females. The first ward exclusively for women mental patients was completed directly south of the men's ward in 1919. A second women's ward was completed in 1924, mirroring the original ward and enclosing a courtyard. The Women's Psychiatric Ward Complex was converted to office and storage space in the late-twentieth century. The buildings are no longer occupied but continue to be used for storage.
>
> Although the buildings have been somewhat altered, their exterior appearance still reflects its period of construction. An example of brick vernacular construction, the Women's Psychiatric Ward complex retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features, which include: one-story height, horizontal massing and double H-shaped, courtyard plan; medium-pitched, complex roof consisting of hipped and gable-on-hip sections, punctuated by gabled roof vents; rafters with rounded tails exposed in overhanging eaves; concrete foundation regularly pierced by vents; brick (painted) exterior walls laid in common bond; sill above the foundation composed of three raised brick courses; regular fenestration pattern of evenly spaced window openings with segmental arched heads; segmental arch door openings; attached porches at the entries on the west (primary) and east facades; projecting (enclosed) porch spaces facing the interior courtyard; and interior brick chimney on the east (rear).[2]

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1202),* prepared for the County of Los Angeles June 2, 2008.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has composed asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	• **23,000 s.f.**
• **Exterior walls –** Exterior masonry walls are damaged in minimal amount of areas.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **10 wood doors 3' x7'**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to	• **135 wood windows**

vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan as not character defining.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **22, 900 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, which have been severely damaged.	• **22,900 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace entire composition shingle roof, and, waterproof membrane. Replace existing plywood substructure and replace with new	• **23,000 s.f.**

substructure, batt insulation, waterproofing membrane and flashing.	
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **10- 3'x 7' exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **135 3'x 6' wood windows.** • **20% replaced in kind (28)**
Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard.	• **20,000 s.f. courtyard.**

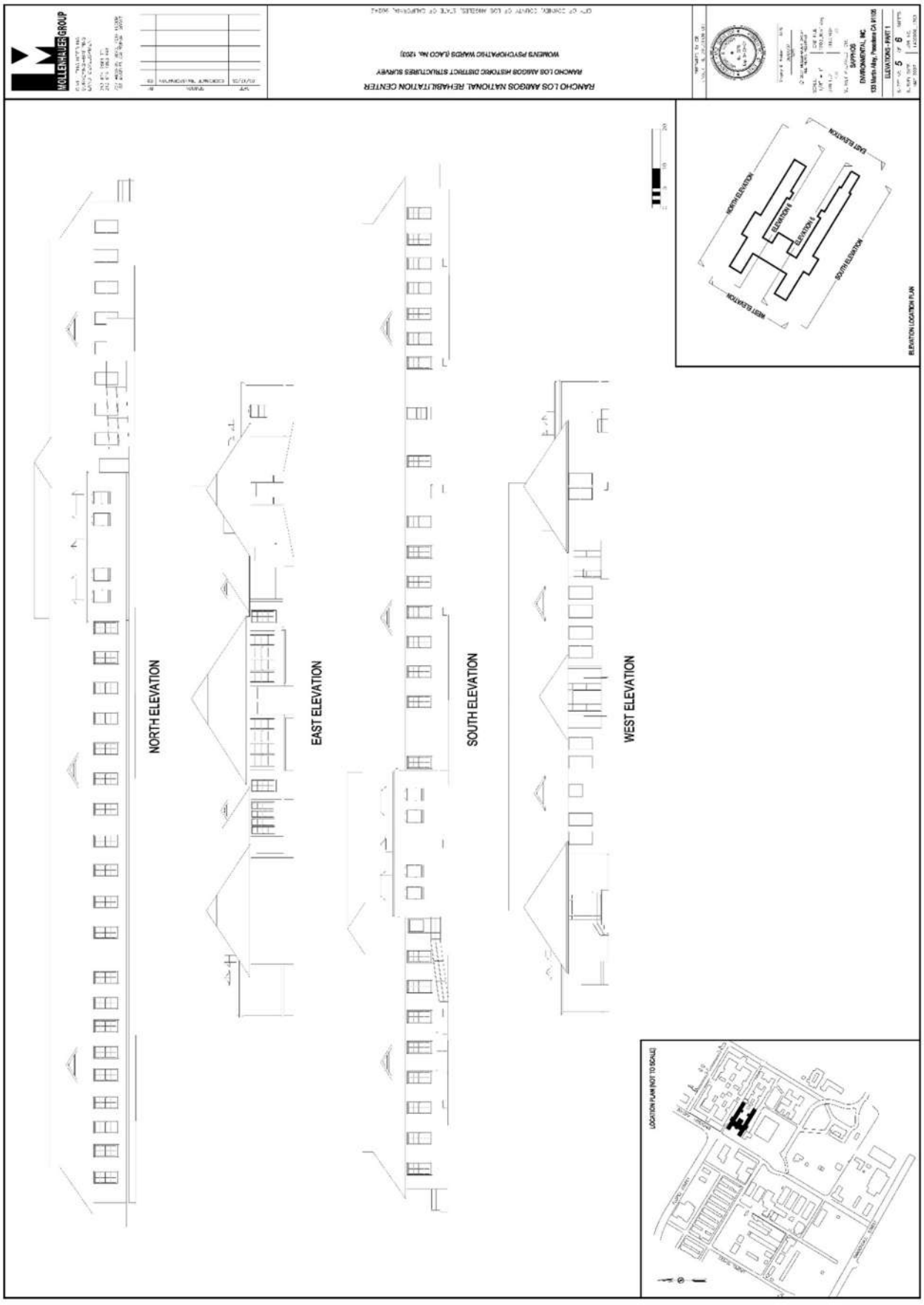
Interior Spaces

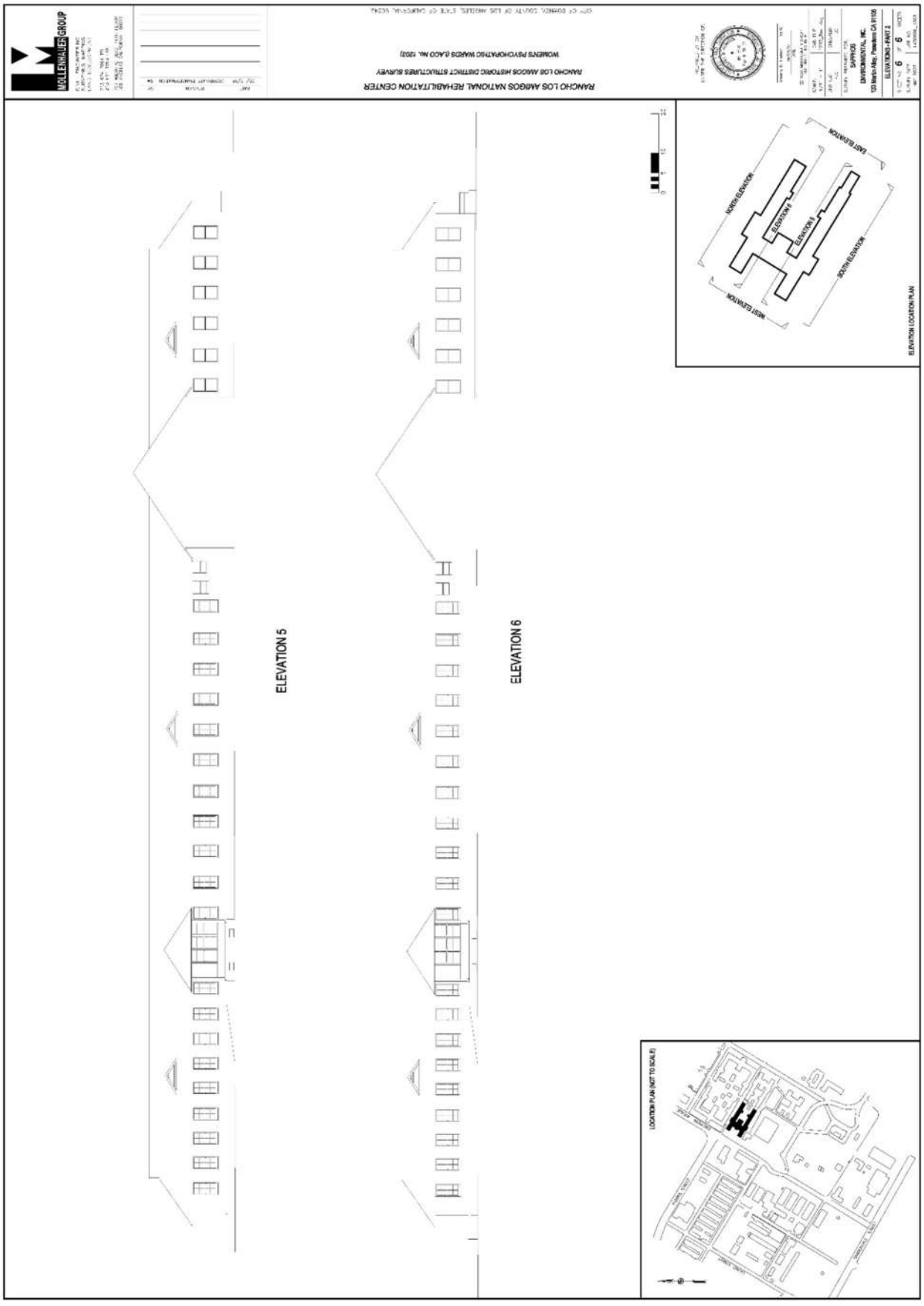
The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan no character defining.

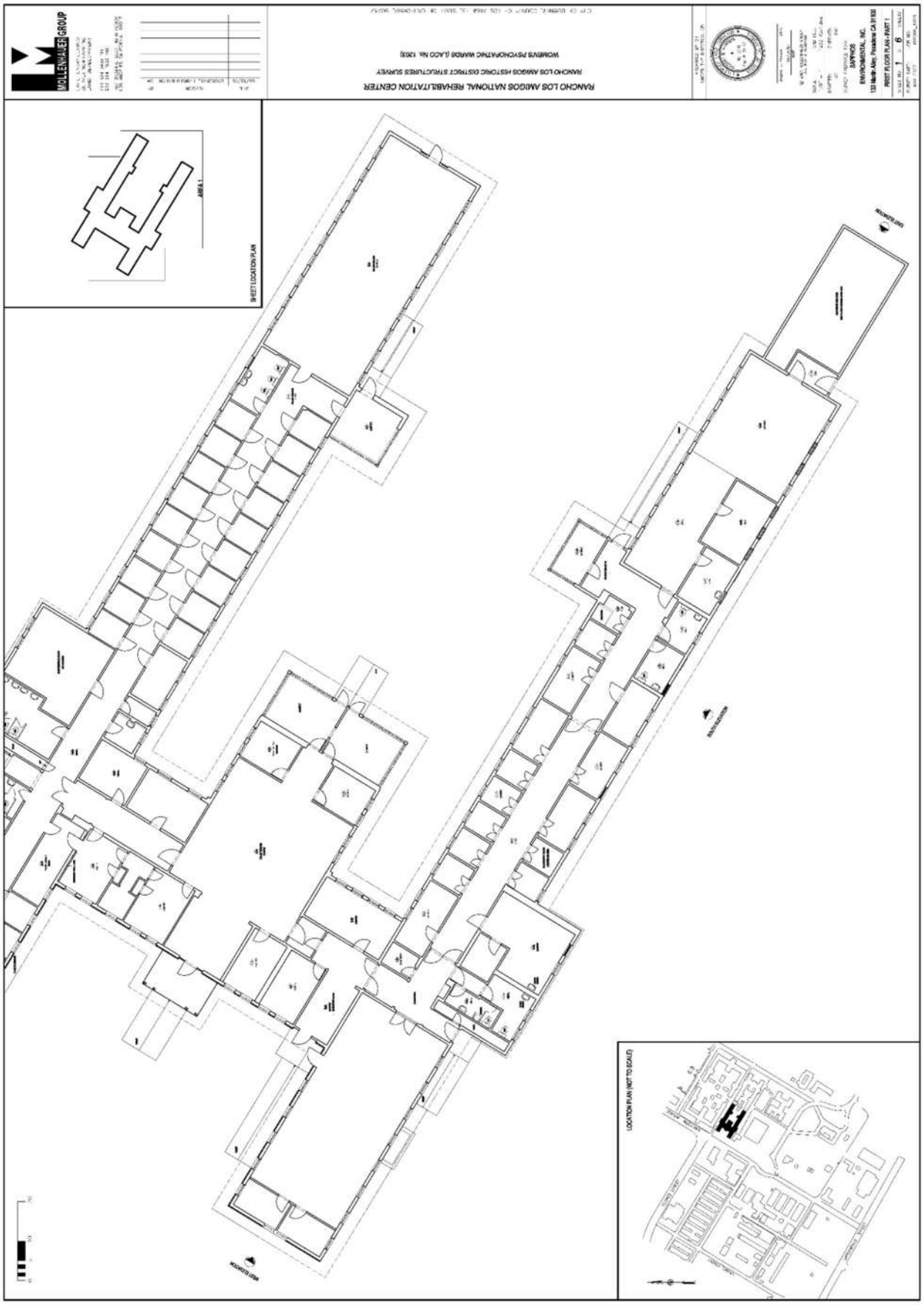
It is assumed that this 22,927 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Service Offices. In order to provide a contemporary working environment per County space requirements, it will be assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan may not directly follow current LA County office area standards which may need to be adjusted in order to accommodate building features.

• **Flooring –** Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **22,900 s.f.**
• **Walls –** Remove paint from masonry. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow Clay tile walls to be encapsulated with 4" 16 ga. Studs and gyp bd. Each side	

• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **22,900 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **200 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **2 restroom cores** • **600 s.f. 6 fixtures – 4 sinks.**
• **Electrical –** New 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in six (6) locations and provide with new railings and new maximum slope of 8%.	


NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
ELEVATION LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
WORKERS PSYCHOPATHIC WARDS (LADO No. 1203)
ELEVATION 5
ELEVATION 6
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
ELEVATION LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)


MOLLENHAUER GROUP
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
WORKERS PSYCHOPATHIC WARDS (LADS No. 1353)
SHEET LOCATION PLAN
AREA 1
LOCATION PLAN (NOT TO SCALE)

North Elevation Ramp

North Elevation

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair or replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

Interior with non-significant suspended ceiling feature.

Interior Window View

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair and replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

B LACO No. 1203 (Women's Psychiatric Ward) – Structural Assessment Report

Women's Psychiatric Ward (LACO 1203)

22,193 s.f.
Built 1919
Primary Contributor to Historic District

Building Description

Consisting of two buildings, the Women's Psychiatric Ward complex (LACO No. 1203) is located centrally in the block bounded by Golondrinas Street to the north, Erickson Avenue to the west, Dahlia Avenue to the east, and Consuelo Street to the south. The Women's Psychiatric Ward complex consists of two one-story brick vernacular style buildings, that was constructed in two stages; the first ward (LACO No. 1203) was built in 1919 and the second ward (LACO No. 1202) was built in 1924. The two buildings enclosed a large, interior courtyard. The overall quadrangle plans consist of two "H-shaped" ward buildings connected by one-story concrete block wall hyphens. The Women's Psychiatric Ward complex is symmetrical in appearance with horizontal massing. One story square projects bathroom wings surmounted by a hipped roof are located on the north and south elevations, and partial-width enclosed porches project from interior courtyard elevations. The exterior walls of both buildings in the complex are clad in painted brick laid in common bond pattern, with the exception of the west and north elevation of LACO No. 1203, which has replacement horizontal metal siding over the original brick walls. The roof configuration incorporates multiple medium-pitched hips and gable-on-hips with overhanging eaves; the roof is sheathed in composition shingles, with exposed beams and rafters that are visible underneath the eaves.

Gabled dormers with louvered vents project from the roof, and triangular vents are located in the gable ends. Galvanized iron skylights with wire glass are located just below the ridgeline on the north and south bathroom projections. Corbelled brick courses define the wall base and a cornice and frieze on the bathroom wings. Original windows (where extant) included four-over-four, double-hung sash windows; one-over-one light double-hung sash windows; one-light fixed windows; and four-over-four fixed windows. All windows are flat-headed and trimmed by slightly projecting header brick window sills. The primary entrance is centrally located on the west façade and is defined by partial-width porch with vertical posts supporting a front gable roof and a raised concrete walkway. Replacement metal windows are located throughout the building.[1]

Statement of Significance

The significance of LACO No. 1203 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort. Here it is important to

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1203),* prepared for the County of Los Angeles June 2, 2008.

note—for the sake of clarity—that at the time the DPR form was completed, the Women's Psychiatric Ward (LACO No. 1203) was described in conjunction with another nearly identical building—the Women's Psychiatric Ward (LACO No. 1202)—rather than treated as a separate entity as it is here for the purposes of the Feasibility Study. The DPR form described the significance of the property as follows:

> The Women's Psychiatric Wards (LACO Nos. 1202 and 1203) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The buildings were erected in 1919 and 1924 to house the mentally unstable female patients sent to the County Poor Farm by the Los Angeles County Hospital. The complex was built was during a large building imitative in the 1920s directed by the Poor Farm's most influential superintendent, William R. Harriman (1915-1931; 1933-1952). The first psychiatric facility at the Poor Farm was the Psychiatric Ward building, constructed in 1907 (now the Men's Psychiatric Ward (LACO No. 1205). This facility housed both males and females. The first ward exclusively for women mental patients was completed directly south of the men's ward in 1919. A second women's ward was completed in 1924, mirroring the original ward and enclosing a courtyard. The Women's Psychiatric Ward Complex was converted to office and storage space in the late-twentieth century. The buildings are no longer occupied but continue to be used for storage.
>
> Although the buildings have been somewhat altered, their exterior appearance still reflects its period of construction. An example of brick vernacular construction, the Women's Psychiatric Ward complex retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features, which include: one-story height, horizontal massing and double H-shaped, courtyard plan; medium-pitched, complex roof consisting of hipped and gable-on-hip sections, punctuated by gabled roof vents; rafters with rounded tails exposed in overhanging eaves; concrete foundation regularly pierced by vents; brick (painted) exterior walls laid in common bond; sill above the foundation composed of three raised brick courses; regular fenestration pattern of evenly spaced window openings with segmental arched heads; segmental arch door openings; attached porches at the entries on the west (primary) and east facades; projecting (enclosed) porch spaces facing the interior courtyard; and interior brick chimney on the east (rear).[2]

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1203),* prepared for the County of Los Angeles June 2, 2008.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Exterior walls –** Exterior masonry walls are damaged in minimal amount of areas.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **10 wood doors - 3'x7'**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **135 wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining. The original porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **22,100 s.f.**
• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **22,100 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace entire composition shingle roof, and, waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **23,000 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer	

recommended installation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **4 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **135 3'x 6' wood windows.** • **20% replaced in kind (28)**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **20,000 s.f. courtyard.**

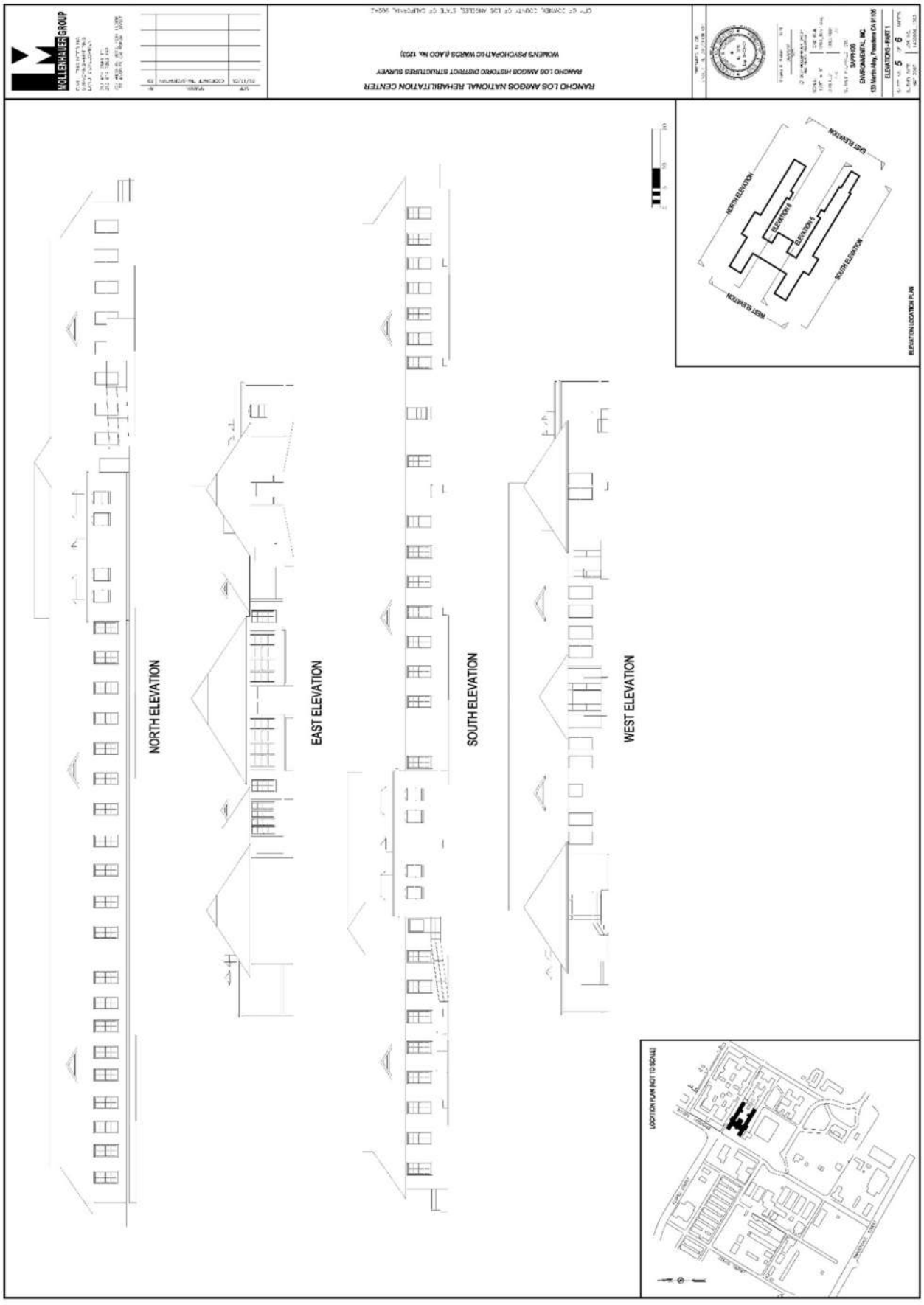
Interior Spaces

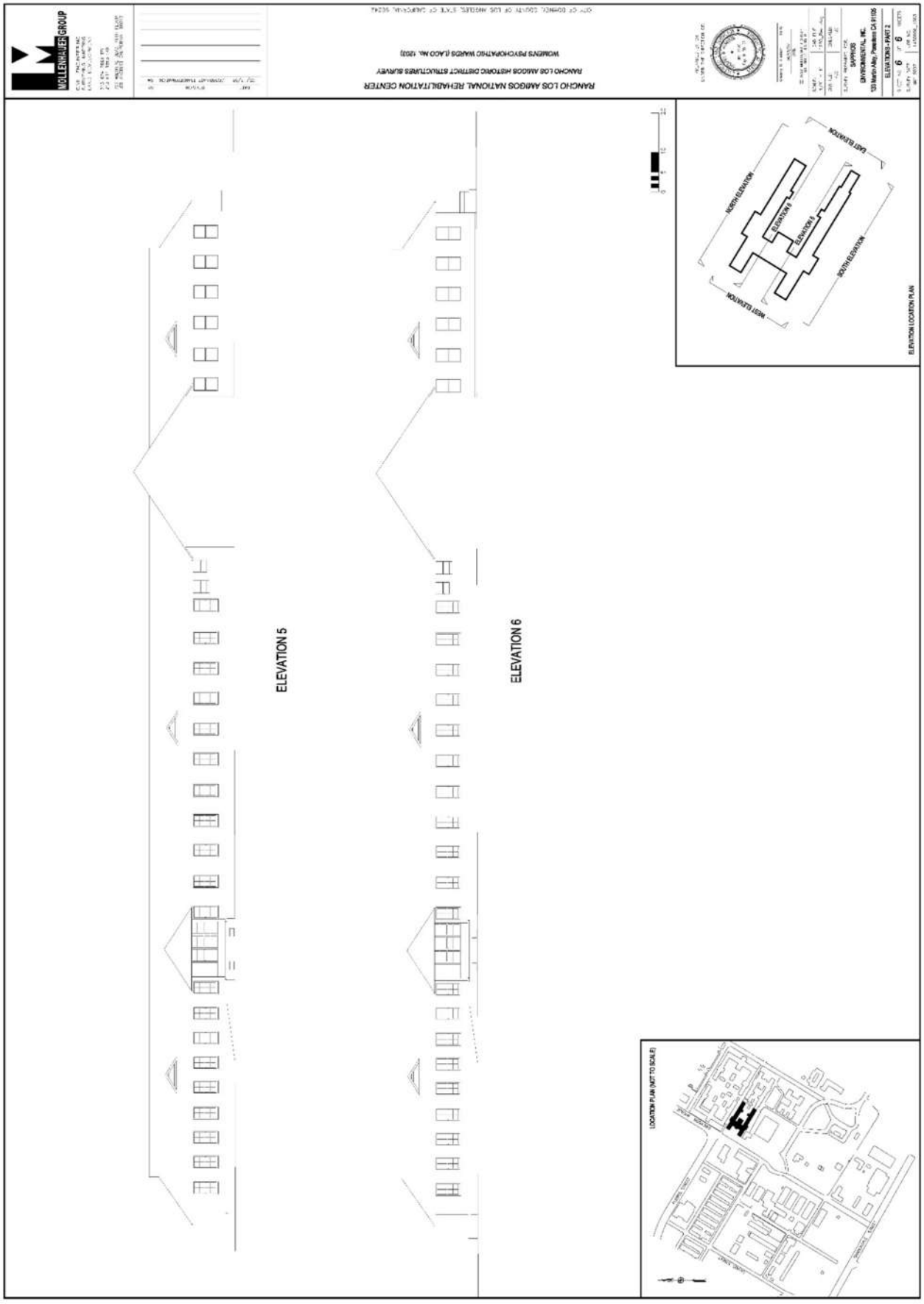
The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan no character defining.

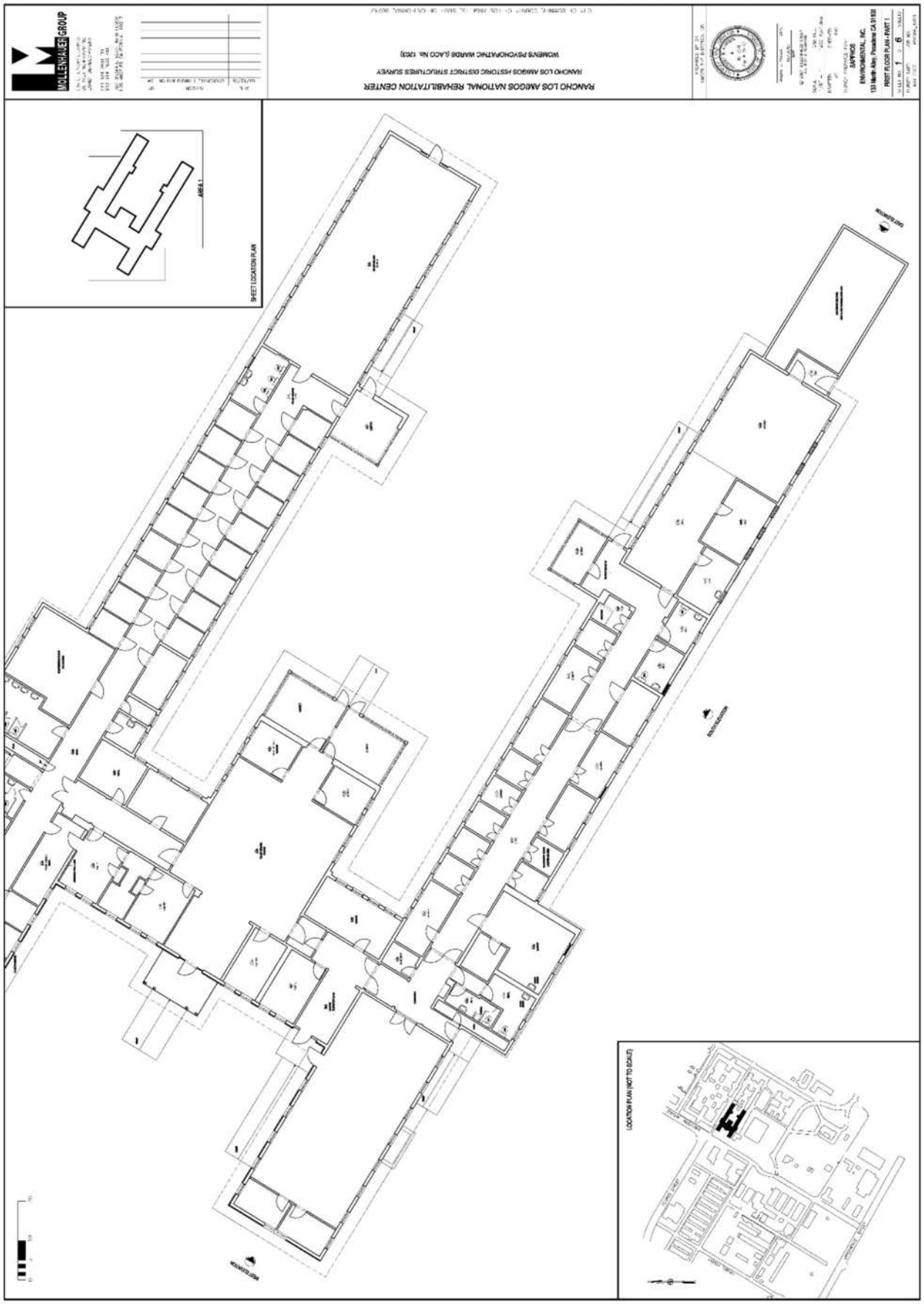
It is assumed that this 22,193 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Service Offices. In order to provide a contemporary working environment per County space requirements, it will be assumed that 75%of the existing layout will be demolished and the rest of the area converted into open office space. The new plan may not directly follow current LA County office area standards which may need to be adjusted to accommodate building features.

• **Flooring –** Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **22,297.f.**
• **Walls –** Remove paint from masonry. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards.All Hollow clay tile walls are to be encapsulated with 4" 16"ga. studs and gyp bd. each side.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	

• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **22,297 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **200 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **2 restroom cores 600 s.f. total, 6 fixtures, 4 sinks.**
• **Electrical –** New 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%.	


NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
LOCATION PLAN (NOT TO SCALE)


ELEVATION 5
ELEVATION 6
LOCATION PLAN (NOT TO SCALE)


MOLLENHAUER GROUP
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
WOMENS PSYCHOPATHIC WARDS (LACO No. 1263)
SHEET LOCATION PLAN
AREA 1
FIRST FLOOR PLAN - PART 1
SAPHOS ENVIRONMENTAL, INC.
(LOCATION PLAN (NOT TO SCALE))

Northwest Corner

Courtyard

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair or replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

Interior

1. Remove existing roof assembly – provide new composition shingle roof over membrane and plywood substrate.
2. Clean and repair masonry wall – paint.
3. Repair and replace “in-kind” existing wood windows.
4. Repair ramp and railing assembly.
5. Remove all non-bearing walls and ceilings.
6. Remove all site debris.

B LACO No. 1202 (Women's Psychiatric Ward) – Structural Assessment Report

Structural Assessment: Women's Psychiatric Ward
(LACO NO. 1202)

Summary of Assessment

The Women's Psychiatric Ward (LACO No. 1202) is a "U"-shaped building with a total square footage of approximately 22,927 square feet. The south wing of the building connects to LACO No. 1203. The two buildings are nearly identical; all structural systems and many conditions observed in either building are assumed to be representative of both buildings. LACO No. 1202 has a wood roof system supported by unreinforced brick masonry walls. Wood rafters and trusses are used to support the straight-sheathed roof system. The building is in poor condition with evidence of water damage and fire damage, in addition to damage associated with the age of the building and other factors. Cracking and deterioration of building materials were noted throughout the structure.

The expected seismic performance of this building in its current condition is poor. The building does not have significant lateral force resisting capacity. Additionally, the structural components are not properly connected to resist a moderate earthquake. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Women's Psychiatric Ward has brick masonry exterior walls supporting a wood roof. The interior walls appear to be a mix of hollow clay tile walls and unreinforced masonry walls. Many of these walls are expected to be bearing and/or shear walls. Some metal stud interior walls were also found. These walls would have been added to the building years after the original construction. The north and south exterior walls have windows every few feet along the entire length of wall (Figure 1). The wood roof system, shown in Figure 2 and Figure 3, consists of shingles over straight sheathing over wood framing. The typical framing consists of wood trusses spaced approximately four feet on center. The building is raised on concrete stem walls.

Condition Assessment

The Women's Psychiatric Ward building is in poor condition. The roof framing does not provide adequate anchorage for the walls. The straight board roof sheathing generally appears in good condition, though it would need to be replaced or supplemented to accommodate wall anchorage forces. There are no additional wall anchors at the embedded roof rafters. In many areas, as shown in Figure 1 and Figure 4, the roof shingles have fallen; this may have exposed the roof framing and caused water damage and/or rot, similar to the damage shown in Figure 5. In areas of the building with plaster ceilings, portions of the ceiling have fallen. A fallen plaster ceiling is apparent in Figure 3, along with pieces of wood that appear to be broken and fallen roof sheathing or framing members. Plaster ceilings should be removed and replaced to prevent falling hazards. In Figure 6, dropped ceiling tiles have fallen and the condition of the room indicates likely water damage.

Many interior walls are severely damaged: missing sections of wall and broken studs, tiles, and bricks were observed (Figure 7 and Figure 8). There was significant fire damage in the northwest wing of the building, as shown in Figure 9. Hollow clay tile (HCT) walls were found throughout LACO No. 1203 and are assumed to have been used for interior walls throughout LACO No. 1202 as well. HCT walls are extremely brittle and generally not suitable for shear or bearing walls. Additionally, HCT walls are known to be a high-risk potential falling hazard; the walls are likely to collapse, break into many pieces, and obstruct egress. It is highly recommended that all hollow clay tile walls be removed and replaced. If there is a strong desire to leave non-bearing HCT walls in place, new heavy metal stud walls may be installed on both sides of the HCT wall to encapsulate the wall and mitigate the potential falling hazard. The unreinforced brick masonry walls are similarly unsuitable for shear resistance and present a potential falling hazard. These walls should be strengthened or replaced, and measures should be taken to ensure bricks do not fall, causing injury or blocking egress.

Many of the bricks have chipped and spalled at the exterior wall faces (Figure 10). The grout in these brick walls is also deteriorating (Figure 11). The foundation stem walls appeared to be in good condition when observed in 2007; they were not accessible during the most recent observations. However, some localized cracking was observed at the exterior (Figure 12). In general, the foundations for the structure are minimal and will likely need to be strengthened.

The connection of this building (LACO No. 1202) to LACO No. 1203 poses a potential risk for damage to both structures if they are not separated (Figure 13). The buildings will attempt to move independently of each other in the case of a seismic event, and this could cause cracking and significant damage where the connection occurs. This damage can lead to loss of gravity support and obstruction of egress, potentially threatening the safety of the occupants of the building. It is recommended that seismic joints be installed between the two buildings at both the north and south connections to mitigate potential damage and life-safety concerns.

Evaluation of Structural Performance

The building plan is irregular in shape, which is a source of concentration of stress. The masonry has deteriorated significantly, a sign of a loss of strength in the material. The main positive aspect of this building's design is its light roof, which means lower shear stress during an earthquake. However, in general, unreinforced brick masonry structures tend to perform very poorly during moderate earthquakes. This building type is no longer allowed in new construction due to its historically poor earthquake performance. Though the building performed well in previous regional earthquakes, the walls still present a significant potential falling hazard and are not likely to perform well in a closer or more severe earthquake. The age of this building and its lack of significant lateral design are associated with a possible risk of partial or total collapse in the event of a moderate earthquake.

The roof of this building is capable of resisting lateral forces, but its strength may not be sufficient. Further analysis would need to be done to determine the required strength of the diaphragm. The connection of the roof to the walls, as well as the ties and collectors, are likely not sufficient to transfer forces across the building.

It appears that all existing interior walls that are to remain likely need to be replaced or strengthened. The metal stud walls are damaged; the hollow clay tile walls and unreinforced masonry walls present a falling hazard and do not have sufficient lateral strength. If many new interior walls are added to the building layout to create additional office space, this will increase the weight of the building and may require additional strengthening of the overall structure, including its foundation.

If the interior walls are reconfigured to allow for a different use of the space, the expected structural performance of the building would be affected. An extensive structural analysis would be required, though it is very likely that new concrete shear walls would need to be added throughout the building to provide supplemental lateral resistance. Depending on the layout and placement of new walls and the removal of old walls, a revised interior wall layout could provide a highly increased structural performance to the building. This is due to the superiority of current design and construction methods compared to those used at the time of construction. New foundations would also have to be added below any new shear or bearing wall locations.

Summary of Proposed Upgrades

The expected seismic performance of the building in its current condition is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the masonry walls. Strengthening will likely be needed on every wall, on the majority of the wall's surface area. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced masonry walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the shotcrete. 100% of the existing masonry walls would need shotcrete or another strengthening method.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be partially covered by a network of steel tube framing.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient for providing protection of character-defining features and increasing performance and strength compared to the other methods.
- Interior brick walls that are to remain should be strengthened with shotcrete, FRP, and/or strongbacks as described above.
- If any interior brick masonry walls are to be removed, new concrete shear walls should be added throughout the building to supplement the lateral support system. Extensive structural analysis would be required to determine where new walls must be placed to accommodate a rearrangement of the structural layout. New concrete shear walls may be required even if no existing walls are removed.
- All new walls must be connected to the existing diaphragm and floor by post-installed epoxy anchors and steel connectors.
- New continuous concrete footings would be required at all new concrete walls. The walls should be doweled into the footings.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in case of damage or collapse.
- Install seismic joints between LACO No. 1202 and LACO No. 1203 where the buildings are connected (north and south walls). Further analysis would be required to determine the size of the gap at the seismic joint; it is expected to be several inches.

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would likely need to be installed four feet on center.
- Install additional steel connectors as needed.
- Add cross ties, collectors, and additional strengthening hardware as needed to complete load path.
- Check the connection of the trusses to the perimeter walls. Strengthen as needed.

General Condition

- Repair and/or replace all deteriorated masonry. Patch and grout any areas (in masonry or concrete) where spalling and cracking has occurred.
- Repair the eroded grout (mortar) at masonry walls. It is expected that approximately 15-40% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building may need to be repointed.

- Replace deteriorated and insufficient wood members with new members.
- Strengthen the foundations and stem walls of the building. This process should include shoring and excavating localized sections to install the footings. This would be repeated along all load bearing walls and underneath load bearing posts.
- Where small sections of wood framed construction exist, install structural plywood or metal siding on a few walls in each principal direction. The amount of siding needed and the number of walls affected would be determined through an in-depth analysis. Reinstall any character-defining original coverings over top of new plywood if necessary.
- Remove and replace plaster ceilings.

Figure 1: North elevation

Figure 2: Typical roof framing trusses, shown at LACO No. 1203

Figure 3: Damaged ceiling and fallen roof framing or sheathing

Figure 4: Typical roof damage, shown at LACO No. 1203

Figure 5: Damaged and deteriorated exterior framing, shown at LACO No. 1203

Figure 6: Signs of water damage

Figure 7: Damaged metal stud wall

Figure 8: Damaged interior masonry wall (unreinforced masonry)

Figure 9: Fire damage

Figure 10: Typical chipped and broken exterior masonry, shown at LACO No. 1203

Figure 11: Deterioration of grout and masonry at exterior wall, shown at LACO No. 1203

Figure 12: Cracking at concrete foundation

Figure 13: North side connection of LACO Nos. 1202 & 1203

C LACO No. 1202 (Women's Psychiatric Ward) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Women's Psychiatric Ward (LACO 1203)

Feasibility Study Cost Plan — Women's Psychiatric Ward (LACO 1203)

			SF	$/SF	TOTAL $ x 1,000
B1	Women's Psychiatric Ward (LACO 1203)		22,193	456.68	10,135
SUB-TOTAL BUILDING CONSTRUCTION			22,193	456.68	10,135
S1	Sitework		20,000	66.10	1,322
	Premium for enhanced sustainable site features				172
SUB-TOTAL SITEWORK					1,494
TOTAL BUILDING AND SITEWORK					**11,629**
Escalation to Midpoint (Jul 2021)		11.7%			1,356
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			1,039
	Project Management Consultant Services	3.0%			421
	FF & E	5.8%			838
	Taxes and Indirect Fees	1.0%			153
	Building Permit and Other Agency Fees	1.5%			232
	Owner Contingency/Construction Contingency	25.0%			3,917
Recommended Budget					***19,585***

MGAC

Feasibility Study Cost Plan — Women's Psychiatric Ward (LACO 1203) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	22,193		
TOTAL GROSS FLOOR AREA	**22,193**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.000
Gross Area		22,193	SF	1.000
Enclosed Area		22,193	SF	1.000
Covered Area		0	SF	-
Footprint Area		22,193	SF	1.000
Gross Wall Area		18,500	SF	0.834
Finished Wall Area		18,500	SF	0.834
Windows or Glazing	13%	2,430	SF	0.109
Roof Area - Sloping		23,000	SF	1.036
Roof Area - Total		23,000	SF	1.036
Roof Glazing Area		0	SF	-
Interior Partitions		920	LF	0.041
Finished Area		22,193	SF	1.000

MGAC

Feasibility Study Cost Plan — Women's Psychiatric Ward (LACO 1203) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	22,193 SF	
A10	Foundations		4%	17.03	378
A20	Basement Construction		0%	0.00	0
A	Substructure		4%	17.03	378
B10	Superstructure		9%	42.67	947
B20	Exterior Enclosure		5%	23.05	512
B30	Roofing		5%	22.28	495
B	Shell		19%	88.01	1,953
C10	Interior Construction		4%	19.23	427
C20	Stairways		0%	0.00	0
C30	Interior Finishes		14%	62.21	1,381
C	Interiors		18%	81.45	1,808
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	16.55	367
D30	Heating, Ventilation & Air Cond.		10%	46.98	1,043
D40	Fire Protection		2%	7.00	155
D50	Elect'l Lighting, Power & Comm.		16%	72.81	1,616
D	Services		31%	143.34	3,181
E10	Equipment		0%	0.00	0
E20	Furnishings		3%	13.46	299
E	Equipment & Furnishings		3%	13.46	299
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	14.35	319
F	Special Construction & Demolition		3%	14.35	319
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	357.64	7,937
Z10	Design Contingency	10.00%	8%	35.76	794
Z11	General Requirements	4.00%	3%	15.74	349
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	409.14	9,080
Z21	General Conditions	6.00%	5%	24.55	545
Z22	Bonds & Insurance	1.50%	1%	6.51	144
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.51	366
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	456.70	10,135
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	456.68	10,135

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Feasibility Study Cost Plan — Women's Psychiatric Ward (LACO 1203)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				110,965
Foundation upgrade	22,193	SF	5.00	110,965
A1030 Slab On Grade				267,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	8,900	SF	30.00	267,000
Remove/replace ramp including railings				*site*
				377,965
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				740,000
Allow shotcrete interior face of exterior walls	18,500	SF	40.00	740,000
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				207,000
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	23,000	SF	9.00	*207,000*
				947,000
B20 Exterior Enclosure				
B2010 Exterior Walls				226,625
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	18,500	SF	8.00	148,000
Painting to exterior walls	18,500	SF	3.00	55,500

	Quantity	Unit	Rate	Total
Loose fill insulation				*n/a*
Painting to interior face of exterior walls (shotcrete area)	18,500	SF	1.25	*23,125*
B2020 Exterior Windows				253,000
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	1,930	SF	100.00	193,000
New windows similar kind, high performance glazing; allow 20%	500	SF	120.00	60,000
B2030 Exterior Doors				32,000
Solid core wood doors including frames and hardware				
Single leaf	9	EA	3,000.00	27,000
Double leaf	1	EA	5,000.00	5,000
				511,625
B30 Roofing				
B3010 Roof Coverings				494,500
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	23,000	SF	21.50	494,500
B3020 Roof Openings				
				494,500
C10 Interior Construction				
C1010 Partitions				212,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	3,500	SF	40.00	140,000
Glazed partitions	900	SF	80.00	72,000
C1020 Interior Doors				102,088
New wood doors including frames and hardware (1/500SF)	44	EA	2,300.00	102,088

	Quantity	Unit	Rate	Total
C1030 Fittings				112,772
Prefabricated toilet compartment and accessories	12	EA	2,000.00	24,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	22,193	SF	4.00	88,772
				426,860
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				257,040
Repair damaged wall plaster and repaint - interior partitions	18,400	SF	10.00	184,000
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
Enhance wall finishes	1	LS	50,000.00	50,000
C3020 Floor Finishes				221,930
New floor finishes including base	22,193	SF	10.00	221,930
Existing flooring to remain, allow for cleaning				n/a
C3030 Ceiling Finishes				901,755
New gypsum plaster ceiling on wood lathe	22,193	SF	35.00	776,755
Allowance for lightcoves and bulkheads	1	LS	125,000.00	125,000
				1,380,725
D10 Conveying Systems				
				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				48,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	24	EA	2,000.00	48,000
D2020 Domestic Water Distribution				92,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	4	EA	2,500.00	10,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	24	EA	3,000.00	72,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	10,000.00	10,000
Solar thermal panels, pipework, valves, specialties				
D2030 Sanitary Waste				138,579
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	22,193	SF	2.00	44,386
Condensate drainage pipework, fittings, < = 1-1/2", insulated	22,193	SF	1.00	22,193
Waste, vent, fittings, < = 6"	24	EA	3,000.00	72,000
D2040 Rain Water Drainage				66,579
Surface water drainage				
Roof & overflow drains, < = 6"	22,193	SF	3.00	66,579
D2090 Other Plumbing Systems				22,193
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	22,193	SF	1.00	22,193
				367,351

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				238,334
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	1,000	mbth	27.50	27,500
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	22,193	SF	1.50	33,290
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	22,193	SF	8.00	177,544
D3040 Distribution Systems				503,908
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	27,741	LB	12.00	332,895
Dampers	1	LS	33,000.00	33,000
Insulation	20,806	SF	4.50	93,627
Diffusers, registers and grilles	22,193	SF	2.00	44,386
D3050 Terminal & Package Units				162,193
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	22	EA	1,000.00	22,193
D3060 Controls and Instrumentation				99,869
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	22,193	SF	4.50	99,869
D3070 Systems Testing & Balancing				33,290
Test and balance air systems	22,193	SF	1.50	33,290
D3090 Other HVAC Systems & Equipment				5,000
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	5,000.00	5,000
				1,042,592

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				155,351
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	22,193	SF	7.00	155,351
				155,351
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				228,801
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,200	AM	65.00	78,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	75	kVA	975.00	73,125
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	22,193	SF	3.50	77,676
D5020 Lighting & Branch Wiring				887,720
User convenience power				
Panel board breakers, 120 V circuits	22,193	SF	2.00	44,386
Receptacles, including conduit and cable	22,193	SF	5.50	122,062
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	22,193	SF	27.50	610,308

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	22,193	SF	5.00	110,965
D5030 Communications & Security				310,702
Telephone and communications				
Telephone/data - including conduit & cable	22,193	SF	6.50	144,255
WAP	22,193	SF	1.00	22,193
DAS - Emergency response & cellular	22,193	SF	4.00	88,772
Cable tray/wire-way/j-hooks	22,193	SF	1.00	22,193
Audiovisual rough-in	22,193	SF	1.50	33,290
D5090 Other Electrical Systems				188,641
Fire alarm systems	22,193	SF	4.50	99,869
Security - perimeter access control & CCTV surveillance	22,193	SF	4.00	88,772
				1,615,863

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				298,650
Cabinets, countertops shelving and millwork	200	LF	1,200.00	240,000
Lavatory countertop	24	LF	300.00	7,200
Window treatment, mechoshade, manual	2,430	SF	15.00	36,450
Entrance mat	1	LS	15,000.00	15,000
				298,650

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				152,090
Selective demolition				
Demo/remove portion of slab on grade	8,900	SF	3.00	26,700
Exterior window	500	SF	5.00	2,500
Doors	53	EA	150.00	8,008
Shingled roofing including roof sheathing	23,000	SF	1.00	23,000
Demo/remove 75% of existing partitions	10,400	SF	3.00	31,200
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	22,193	SF	2.50	55,483
Allow for clearing/removal of storage debris	80	MH	65.00	5,200
F2020 Hazardous Components Abatement				166,448
Hazmat abatement - allowance	22,193	SF	7.50	166,448
				318,538

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Women's Psychiatric Ward (LACO 1203)				
Gross Site Area	42,200	SF		
Building footprint	22,193	SF		
Net Site Area	20,000	SF		
General site clearing, demo and remove paving/landscaping	20,000	SF	4.00	80,000
Site paving, site structures, fencing, landscaping & irrigation	20,000	SF	25.00	500,000
Premium for permeable paving	10,000	SF	13.00	130,000
Remove/replace ramp including railings	6	EA	7,500.00	45,000
Site lighting and drainage	20,000	SF	4.00	80,000
Site Utilities	20,000	SF	10.00	200,000
Alternate Cost Before Markups				**1,035,000**
Z10 Design Contingency	10.00%			103,500
Z11 General Requirements	4.00%			45,540
Z21 General Conditions	6.00%			71,042
Z22 Bonds & Insurance	1.50%			18,826
Z23 Contractor's Overhead, Profit & Fee	3.75%			47,772
Z30 See Overall Summary for Escalation	0.00%			
				1,321,680

D LACO No. 1202 (Women's Psychiatric Ward) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Women's Psychiatric Ward #1203

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Women's Psychiatric Ward (LACO #1203) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Women's Psychiatric Ward #1203 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Women's Psychiatric Ward (LACO #1203), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction*

		system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

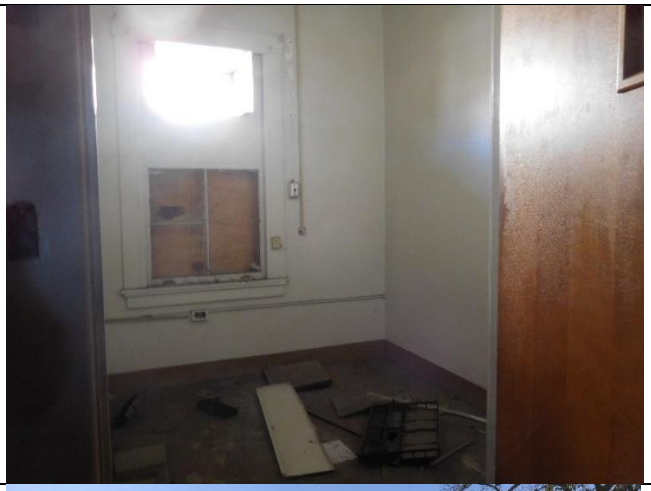
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and*

		contracts for all work at the building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally,*

		and shall report a signal to a central station that automatically notifies the fire department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building.

		Refer to the recommendations for landscape maintenance above.
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly)	• regular drive by surveillance

	minimum	• check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Building interior	
2	North elevation	
3	Courtyard North side.	

E LACO No. 1202 (Women's Psychiatric Ward) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Women's Psychiatric Ward (LACO 1202)

MGAC

Mothballing Cost Plan — Women's Psychiatric Ward (LACO 1202)

			SF	$/SF	TOTAL $ x 1,000
B1	Women's Psychiatric Ward (LACO 1202)		22,297	31.84	710
TOTAL BUILDING CONSTRUCTION			22,297	31.84	710
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**710**
Escalation to Midpoint (Jul 2021)		11.7%			83
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			32
	Project Management Consultant Services	2.0%			17
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			8
	Building Permit and Other Agency Fees	1.5%			13
	Owner Contingency/Construction Contingency	10.0%			86
Recommended Budget					***949***

MGAC

Mothballing Cost Plan — Women's Psychiatric Ward (LACO 1202)

Item Description	Quantity	Unit	Rate	Total
1.) Women's Psychiatric Ward (LACO 1202)				
No of floors	***1***	***EA***		
Gross Floor Area	***22,297***	***SF***		
Gross Wall Area	***18,500***	***SF***		
Roof Area	***23,000***	***SF***		
Windows Area	***2,430***	***SF***		
Gross Site Area	***42,900***	***SF***		
Building footprint	***22,927***	***SF***		
Net Site Area	***20,000***	***SF***		
Stabilized structure	22,297	SF	1.50	33,446
Repaint exterior walls	18,500	SF	2.00	37,000
Protect existing openings (exterior doors)	10	EA	800.00	8,000
Install hard protection/boarding to windows	2,430	SF	25.00	60,750
Seal all openings to eliminate small animals and pests from entering and nesting in the building	18,500	SF	0.10	1,850
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	23,000	SF	15.00	345,000
Termites, ants, rodents etc - inspection and allowance for treatment	22,297	SF	0.25	5,574
Install smoke & fire detectors including wiring	22,297	SF	1.00	22,297
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	8	EA	275.00	2,200
Remove debris and broom clean	22,297	SF	0.75	16,723
Clear site of weeds and overgrown trees	20,000	SF	0.50	10,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**552,340**
Z10 Design Contingency	15.00%			82,851
Z11 General Requirements	3.00%			19,056
Z21 General Conditions	3.00%			19,627
Z22 Bonds & Insurance	1.50%			10,108
Z23 Contractor's Overhead, Profit & Fee	3.75%			25,649
				709,631

Feasibility Study Reports for LACO No. 1204 (Men's Psychiatric Ward)

Secondary Contributor

ESA

A LACO No. 1204 (Men's Psychiatric Ward) – Architectural Assessment Report

Men's Psychiatric Ward (LACO 1204)

28,917 s.f.
Secondary Contributor to Historic District

Building Description

Consisting of two "U-shaped" buildings that enclosed a rectangular, central courtyard, the Men's Psychiatric Ward Complex (LACO No. 1204) occupies the north half of the block bounded by Golondrinas Street to the north, and Dahlia Avenue to the east. Mostly one-story in height, the wards present a nearly symmetrical appearance on their primary, west and east elevations. A medium-pitched, hipped and hip-on-gable roof, punctuated by front-gabled vents, caps the building, with rafters that are exposed in the overhanging eaves. Galvanized iron skylights with wire glass and interior chimneys are located just below and on the roof ridgeline. Two-story, flat-roofed pavilions are offset to the west on the north and south elevations. The exterior walls are brick, laid in common bond pattern and painted with horizontal metal siding that has been installed over the brick on the west half of the complex. Attached, hip-roof porches project towards the street on the west and east elevations and contain the primary entrances. Window and door openings are defined by segmental arch heads articulated by triple courses of brick headers. Original windows, where extant, are wood-framed and include four-over-four, double-hung sash windows; one-over-one, double-hung sash windows; one-light fixed windows.

All windows are flat-headed and trimmed by slightly raised header sills. Additional entrances are located within the interior courtyard. Courtyard projections contain sunrooms. Elevated concrete walkways and ramps provide access to secondary and courtyard entries. Segmented arched door openings with triple header bands frame extant original wood doors and replacement metal doors. The complex is in fair condition and its windows and doors have been boarded with plywood. The structure has been seriously damaged by fire on the southeast portion of the building with only the masonry walls and foundation remaining.[1]

Statement of Significance

The significance of LACO No. 1204 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> The Men's Psychiatric Ward (LACO No. 1204) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The Men's Psychiatric Ward Complex was erected in several stages from 1907 to 1924. The oldest part of the complex, LACO No. 1205 on the west, initially

[1] 1, Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Women's Psychiatric Ward (LACO No. 1204),* prepared for the County of Los Angeles June 2, 2008.

housed both male and female "psychopathic wards." Initially constructed to house mentally unstable patients transferred from the County Hospital, the facility eventually was considered one of the outstanding psychiatric ward faculties in the State of California. It provided ward space and medical care for hundreds of Los Angeles County patients for many years until the facility was closed in the late twentieth century, and the buildings converted to offices and storage. The buildings are currently abandoned.

Although the complex has been somewhat altered, its exterior appearance still reflects its period of construction. An example of brick vernacular styling, the building retains integrity of location, feeling, association, design, materials, and workmanship. The building has retained most of its character-defining features, including: horizontal massing and overall symmetry of design; courtyard plan; one- and two-story height; brick exterior walls; hipped and gable-on-hip roof; segmental arched window and door openings with triple header bands; raised and corbelled brick courses defining belt courses; and attached entry porches. Its setting has been altered through the deterioration of the surrounding landscape.[2]

Fire damaged portion of structure as viewed from Courtyard.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Men's Psychiatric Ward (LACO No. 1204),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing –** The building has asbestos shingles over cedar shakes with overhanging eaves. Substantial portion of the roof is missing due to fire damage. Water intrusion within the building indicates substantial deterioration of areas of the roof. All roofing components – including flashing, roof, eaves, and gutters – are in need of repair or replacement.	**29,000 s.f.**
• **Exterior walls –** Masonry and exterior plaster is damaged in approximately 50% of the structure.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **18 wood doors**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **143 wood windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Approximately 20,000 s.f. of the structure no longer remain dur to fire damage. Multiple remodels have rendered most of the remaining interior plan as non-character defining.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **28,900 s.f.**

• **Walls** – Existing interior perimeter walls are of plaster and have been vandalized or damaged but appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **10,000 remaining s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

• **Roofing –** Replace entire asbestos and shake roofs and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing. Damaged roof will need to be rebuilt including any structural framing, wall reconstruction, and foundation upgrade.	• **31,000 s.f. total** • **Rebuild approximately 20,000 s.f. and roof structure**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **18 exterior 3' x 7' wood doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **143 wood windows** • **20 % replace in kind (29)**

Non-Character Defining Feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to Building 201 (LACO No. 1189). Perimeter exterior landscaping to be landscape and irrigation.	• **50,000 sf. courtyard.**

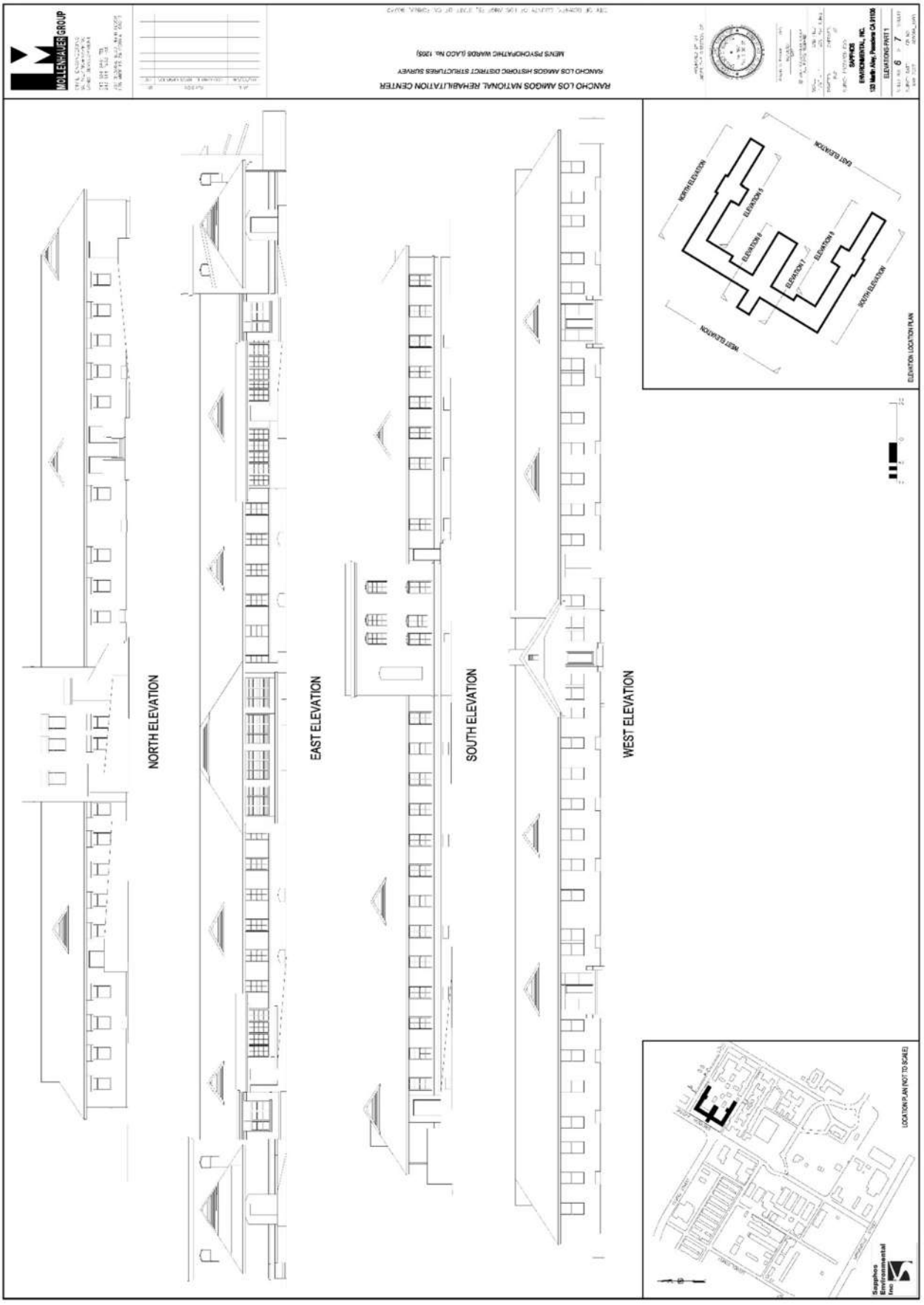
Interior Spaces

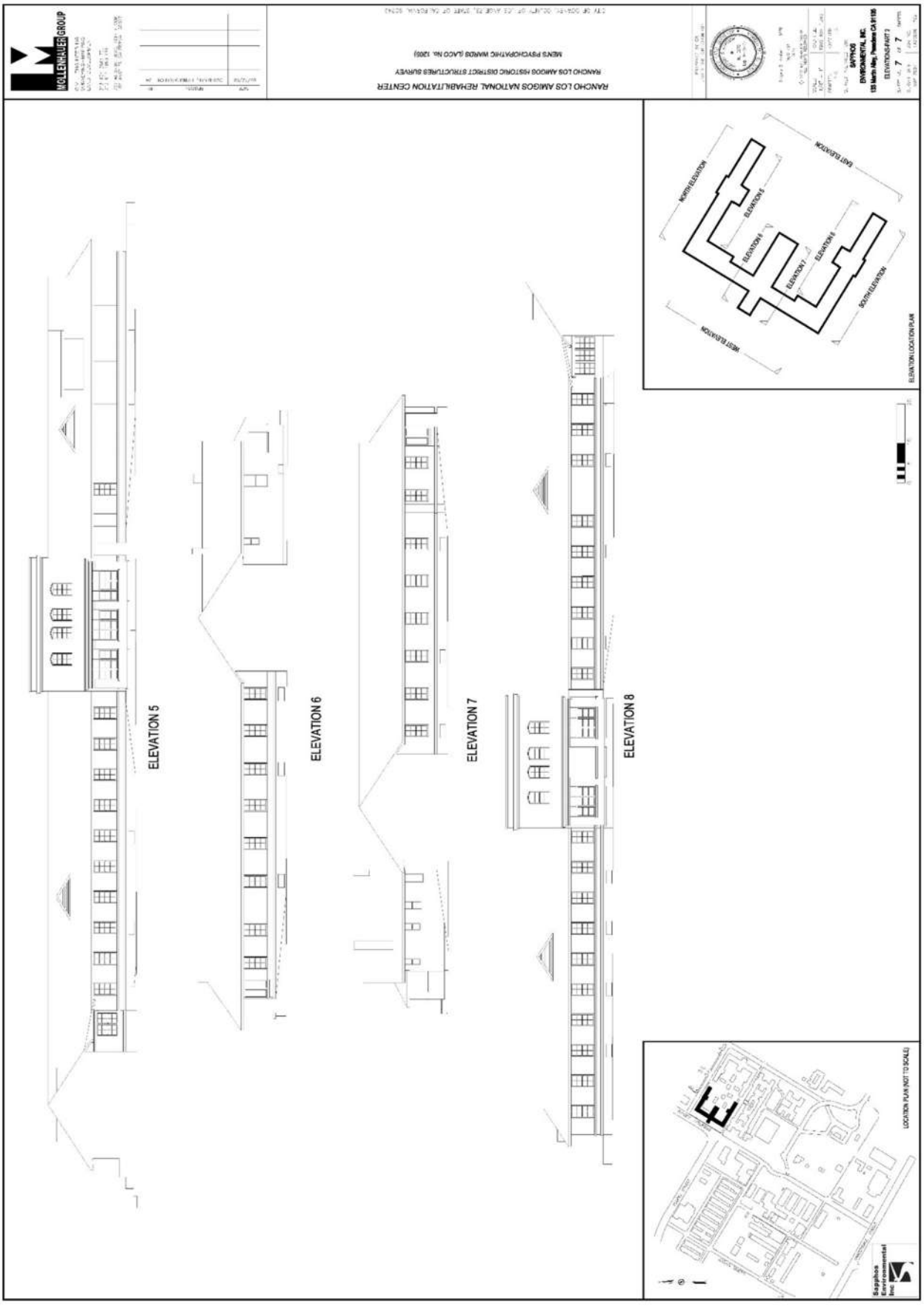
The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan non character defining.

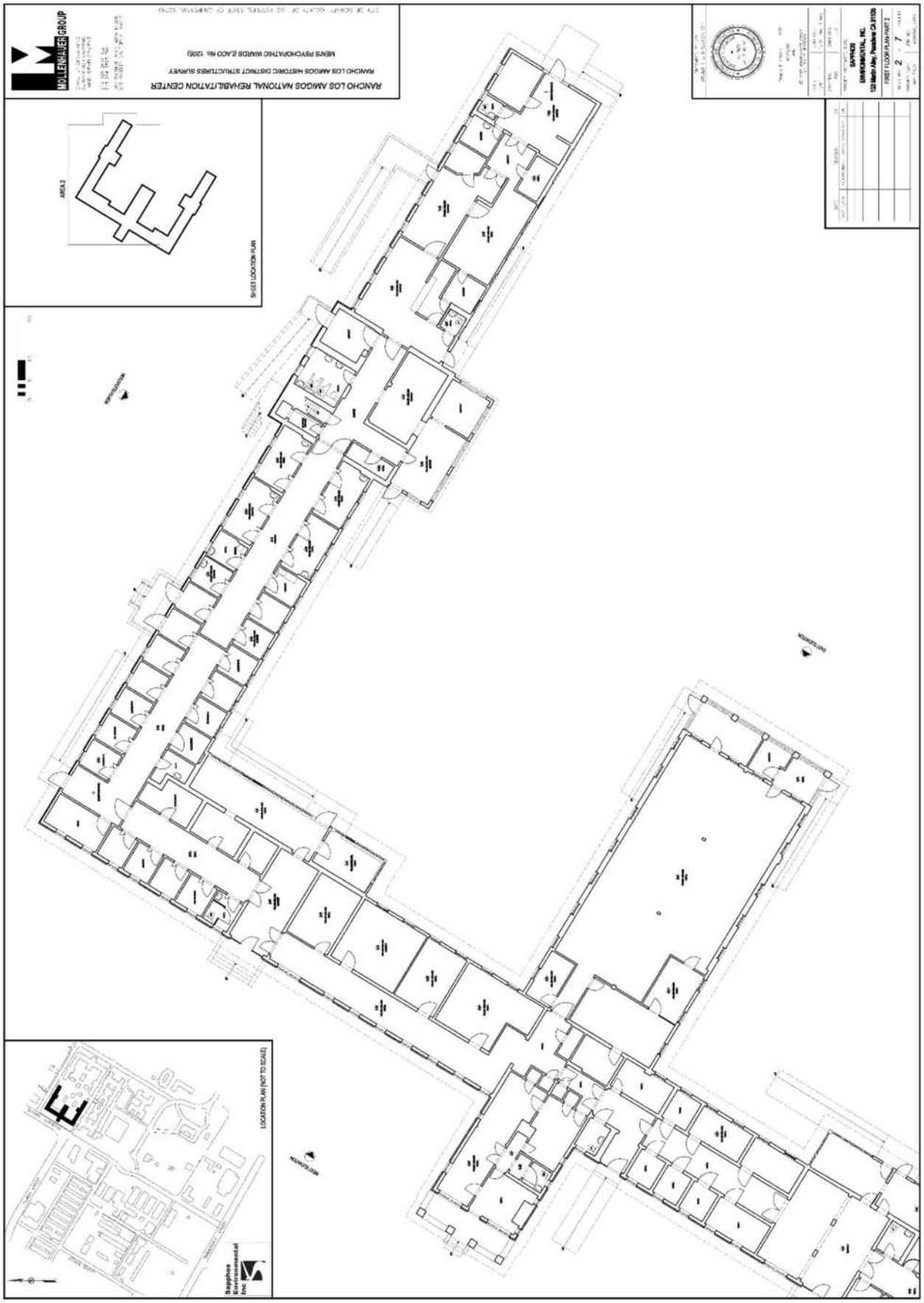
It is assumed that this 28,917 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Service Offices. In order to provide a contemporary working environment per County space requirements, it will be assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan may not directly follow current LA County office area standards which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace floor with new concrete flooring. Reconstruct 20,000 s.f. of damaged structure.	• **29,000 s.f.**
• **Walls –** Remove paint from masonry. Remove all damaged plaster and replace in-kind per the Secretary of the Interior's Standards. All Hollow Clay tiles are to be encapsulated with 4" 16 ga. Metal studs and gyp bd. each side.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **28,900 s.f.** • **Reconstruct new ceiling and framing assembly of 20,000 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **200 lf.**

• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **Assume 4 new restroom cores, 1,400 s.f. 8 fixtures, 6 sinks.**
• **Electrical –** New 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in eight (8) locations and provide with new railings and new maximum slope of 8%.	


MOLLENHAUER GROUP
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEN'S PSYCHOPATHIC WARDS (LACO No. 1205)
SAPPHOS ENVIRONMENTAL, INC.
ELEVATIONS PART 1
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
ELEVATION LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)
Sapphos Environmental Inc


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEN'S PSYCHOPATHIC WARD (LACO No. 1205)
MOLLENHAUER GROUP
ELEVATION 5
ELEVATION 6
ELEVATION 7
ELEVATION 8
NORTH ELEVATION
EAST ELEVATION
WEST ELEVATION
SOUTH ELEVATION
ELEVATION LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)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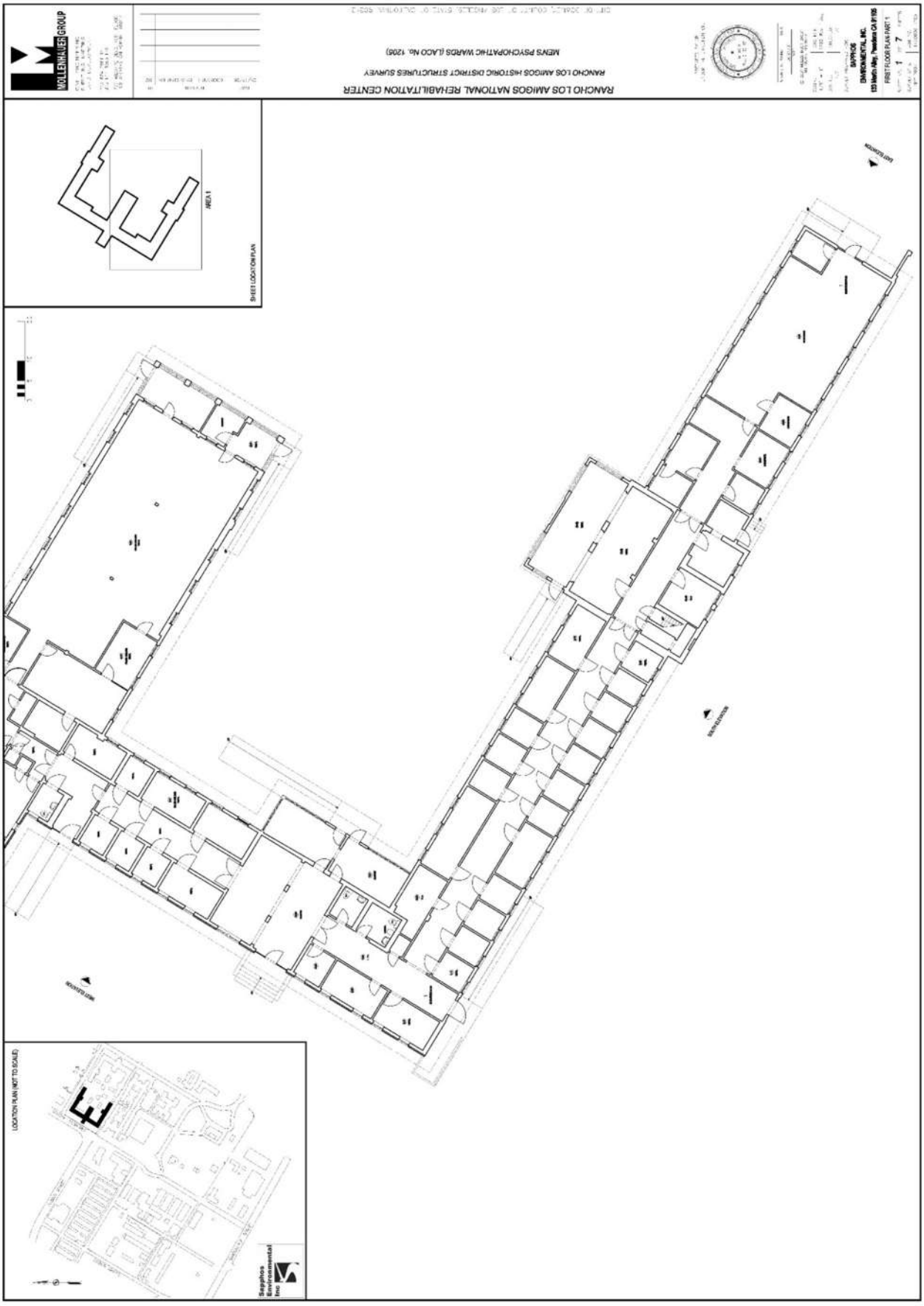
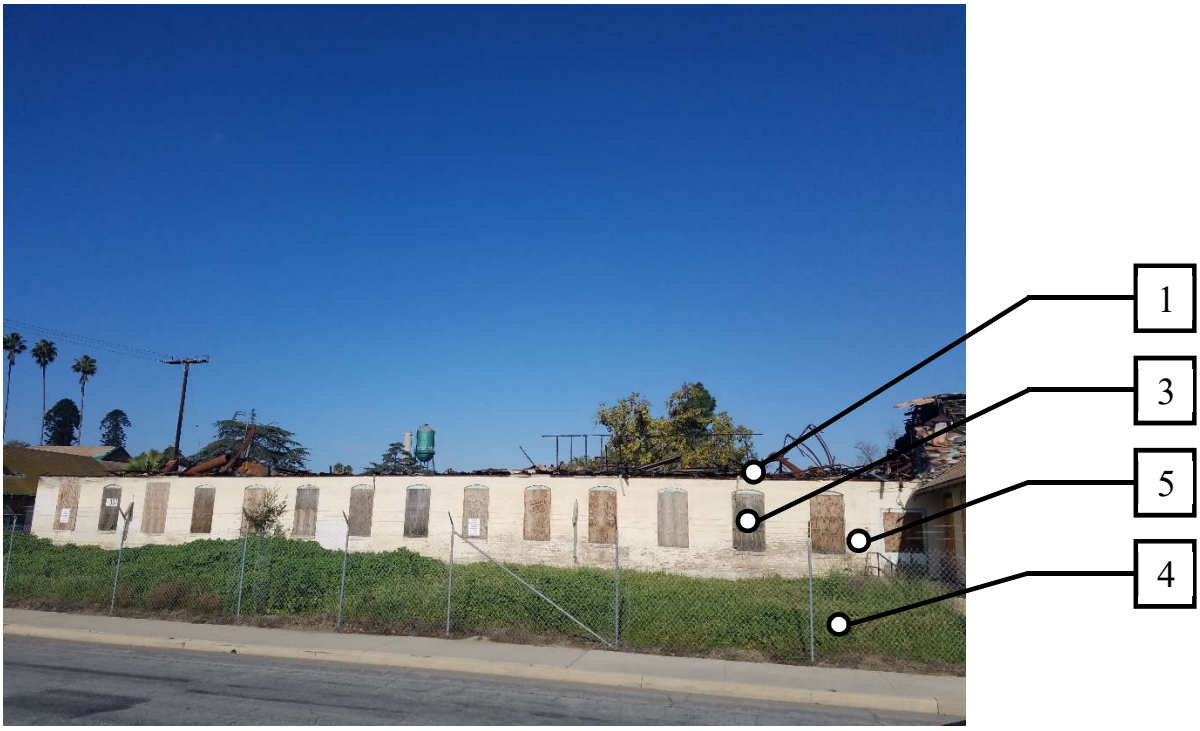
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEN'S PSYCHOPATHIC WARDS (LACO No. 1205)
AREA 2
SHEET LOCATION PLAN
LOCATION PLAN (NOT TO SCALE)
Sapphos Environmental Inc
SAPPHOS ENVIRONMENTAL, INC.
FIRST FLOOR PLAN-PART 2


RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
MEHS PSYCHOPATHIC WARDS (LACO No. 1206)
MOLLENHAUER GROUP
SHEET LOCATION PLAN
AREA 1
LOCATION PLAN (NOT TO SCALE)
Segahos Environmental Inc

Partial East Elevation

Partial Elevation East

1. Re-build new roof structure at fire damaged area.
2. Replace wood composition shingle roofing.
3. Remove plywood repair or replace “in-kind” wood windows.
4. Remove all site debris and landscaping – provide new landscape.
5. Repair existing masonry and grout.



Damaged South Portion of Structure

Aerial photo showing fire damage

1. Re-build new roof structure at fire damaged area.
2. Replace wood composition shingle roofing.
3. Remove plywood repair or replace “in-kind” wood windows.
4. Remove all site debris and landscaping – provide new landscape.
5. Repair existing masonry and grout.

B LACO No. 1204 (Men's Psychiatric Ward) – Structural Assessment Report

Structural Assessment: Men's Psychiatric Ward
(LACO NO. 1204)

Summary of Assessment

The Men's Psychiatric Ward (LACO No. 1204) is a "U"-shaped building with a total square footage of approximately 28,917 square feet. The building has a wood roof system supported by unreinforced brick masonry walls. Wood rafters and trusses are used to support the straight-sheathed roof system. A covered walkway connects the north wing of LACO No. 1205 to LACO No. 1204. It is not clear from previous reports and drawings whether LACO No. 1204 was built at the same time as LACO No. 1205, but construction is assumed to have been between 1907 and 1924. LACO Nos. 1204 and 1205 are nearly identical in layout and size. From the exterior, the two buildings also appear to have the same construction type. LACO No. 1204 was severely damaged by fires, leaving it unsafe to enter. Consequently, interior construction and conditions could not be verified. Based on the similarities mentioned, this report assumes that the majority of conditions and the assessment of LACO No. 1205 apply to LACO No. 1204 as well.

The building is in very poor condition. The roof structure of the entire south half of the building is completely demolished by fire. It is expected that fire damage and water damage exist throughout the rest of the building, along with other deterioration associated with the age of the building and the condition of the project site. The expected seismic performance of this building in its current condition is very poor. The building does not have significant lateral force resisting capacity for a moderate earthquake. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of this building, though a large portion of the building will need to be completely rebuilt. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The condition of the Men's Psychiatric Ward presented potential health and safety risks and did not allow for observation. However, LACO No. 1204 and LACO No. 1205 appear to be nearly identical structures that mirror each other. Based on the similarities in appearance, shape, use, and construction between the two buildings, this report is based on our observation of LACO No.1205 and our observation of the exterior of LACO No. 1204. It is assumed that the majority of conditions at LACO No. 1205 apply to this structure.

LACO No. 1204 has brick masonry exterior walls supporting a wood hip roof. Its shape can be described as a "U" with two long legs extending to the west. The wood roof system consists of shingles over straight sheathing over wood framing (Figure 1). The typical framing consists of wood trusses spaced approximately four feet on center. Not much is known about the interior walls of this building, but it is likely that many consist of hollow clay tile as found in LACO Nos. 1202 and 1203. The exterior walls have windows every few feet along the entire length of wall (Figure 2). The building is raised on concrete stem walls.

Condition Assessment

The Men's Psychiatric Ward building (LACO No. 1204) is in very poor condition. The building does not appear to have a proper or complete lateral force resisting system. The roof framing does not provide adequate anchorage for the walls, as there are no additional wall anchors at the embedded roof rafters. In many areas, as shown in Figure 3, the roof shingles have fallen; this may have exposed the roof framing and caused water damage and/or rot in areas that are not visible. The straight board roof sheathing is in poor condition and is expected to have deteriorated from dry rot, water damage and fire damage. The sheathing would need to be replaced or supplemented to accommodate wall anchorage forces. It is expected that ceiling tiles and portions of plaster ceiling have fallen (Figure 4). Plaster ceilings and ceiling tiles should be removed and replaced to prevent potential falling hazards and injury.

Significant fire damage has demolished the roof structure at the south end of the building, as seen in Figure 5 through Figure 7. Here, the roof would need to be completely reconstructed, and new posts and/or new wall to roof connections

may be required. Though the masonry walls are still standing, their structural integrity may have been compromised due to prolonged exposure to extreme heat or impact from falling structures. Where the roof was demolished, the interior of the building has been open to weather and wildlife for years, which has likely led to severe deterioration of the floor structure and any walls left standing. At the portions of the building not visibly demolished, the fire most likely still had an impact. It is expected that walls and ceilings are covered in soot and cracked, as shown in Figure 8. The cracking is likely due to the heat from the fire and the resulting expansion of the wall material. Portions of the roof framing in these areas may be damaged enough to have lost their strength capacity.

The hollow clay tile (HCT) walls that were likely constructed throughout the building are extremely brittle and generally not suitable for shear walls or bearing walls. Additionally, HCT walls are known to be a high-risk potential falling hazard; the walls are likely to collapse, break into many pieces, and obstruct egress. It is highly recommended that all HCT walls be removed and replaced. If there is a strong desire to leave non-bearing HCT walls in place, new heavy metal stud walls may be installed on both sides of the HCT wall to encapsulate the wall and mitigate the potential falling hazard. Similarly, the unreinforced brick masonry walls are unsuitable for shear resistance and present a potential falling hazard. These walls should be strengthened or replaced, and measures should be taken to ensure bricks do not fall, causing injury or blocking egress. Many of the bricks have chipped and spalled at the exterior wall faces. The mortar in these brick walls is also deteriorating (Figure 9). In general, the foundations for the structure are minimal and will likely need to be strengthened.

A covered walkway leads from the northeast wing of LACO No. 1205 to the northwest wing of this building, LACO No. 1204 (Figure 10). It appears this walkway is a separate structure, though it may be connected to each building. If the walkway is attached to either building, it could pose a potential risk for damage to both structures if they are not separated. The buildings will attempt to move independently of each other in the case of a seismic event, and this could lead to damage of the walkway, particularly its roof, or damage to the building walls. Just behind the walkway to the north is a concrete block masonry wall connecting the two buildings. A similar block wall connects the buildings at the south end (Figure 11), creating an enclosed courtyard between the buildings. These block walls were likely constructed years after the original buildings were built since they consist of block masonry and not brick masonry. However, the walls appear to be positively attached to the buildings, and these connections could be detrimental. The buildings will attempt to move independently of each other in the case of a seismic event, which could lead to cracking and significant damage where the connection occurs. This damage can lead to loss of gravity support and obstruction of egress (if pieces of the structure or blocks from the wall fall into the path of egress), threatening the safety of any occupants of the building. It is recommended that a seismic joint be installed at each end of the walkway and at each end of the two block walls to mitigate potential damage and life-safety concerns.

Evaluation of Structural Performance

At the south portion of the building where fire has demolished the roof structure and left the interior space exposed, reconstruction will be necessary. Almost no roof remains, and the roof will need to be entirely rebuilt. The interior walls are heavily damaged and many likely do not have sufficient strength for gravity or lateral loads. These walls will need to be rebuilt and properly connected to the building foundation and roof. The floor structure in this area will likely need to be removed and reconstructed. The exterior walls are still standing but will need strengthening as described below for unreinforced brick masonry walls. For some of the exterior walls, their strength may have been compromised such that they have to be replaced.

At the rest of the building, where the structure does not appear to have been destroyed by fire, there are still many concerning issues that are expected to inhibit the building's structural integrity and performance. The building plan is irregular in shape, which is a source of concentration of stress. The masonry walls have deteriorated significantly, a sign of a loss of strength in the material. The main positive aspect of this building's design is its light roof, which means lower shear stress during an earthquake. However, in general, unreinforced brick masonry structures tend to perform very poorly during moderate earthquakes. This building type is no longer allowed in new construction due to its historically poor earthquake performance. Though the building performed well in previous regional earthquakes,

the walls still present a significant potential falling hazard and are not likely to perform well in a closer or more severe earthquake. The age of this building and its lack of significant lateral design are associated with a possible risk of partial or total collapse in the event of a moderate earthquake.

The type of roof used at this building is capable of resisting lateral forces, but its strength may not be sufficient. Further analysis would need to be done to determine the required strength of the diaphragm. The connection of the roof to the walls, as well as the ties and collectors, are likely not sufficient to transfer forces across the building. Any existing interior walls that are to remain likely need to be replaced or strengthened. If many new interior walls are added to the building layout to create additional office space, this will increase the weight of the building and may require additional strengthening of the overall structure, including its foundation.

If the interior walls are reconfigured to allow for a different use of the space, the expected structural performance of the building would be affected. An extensive structural analysis would be required, though it is very likely that new concrete shear walls would need to be added throughout the building to provide supplemental lateral resistance. Depending on the layout and placement of new walls and removal of old walls, a revised interior wall layout could provide a highly increased structural performance to the building. This is due to the superiority of current design and construction methods compared to methods used at the time of construction. New foundations would also have to be added below any new shear or bearing wall locations.

Summary of Proposed Upgrades

The expected seismic performance of the building in its current condition is very poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the masonry walls. Strengthening will likely be needed on every wall, on the majority of the wall's surface area. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced masonry walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the shotcrete. 100% of the existing masonry walls would need shotcrete or another strengthening method.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be partially covered by a network of steel tube framing.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient for providing protection of character-defining features and increasing performance and strength compared to the other methods.
- If any interior brick walls are discovered and are to remain, they should be strengthened with shotcrete, FRP, and/or strongbacks as described above.
- If any interior brick masonry walls are to be removed, new concrete shear walls should be added throughout the building to supplement the lateral support system. Extensive structural analysis would be required to determine where new walls should be placed to accommodate a rearrangement of the structural layout. New concrete shear walls may be required even if no existing walls are removed.
- All new walls must be connected to the existing diaphragm and floor by post-installed epoxy anchors and steel connectors.

- New continuous concrete footings will be required at all new concrete walls. The walls should be doweled into the footings.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other risks they present. However, if there is a strong desire to leave non-bearing hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling in case of damage or collapse.
- Install seismic joints at the walkway and the block masonry walls between LACO No. 1204 and LACO No. 1205. An alternative option at the block masonry is to remove the connecting walls.

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing sheathing, or the existing sheathing can be removed before new plywood is installed.
- Install new steel anchors between walls and diaphragm. The anchors would likely need to be installed four feet on center.
- Install additional steel connectors as needed.
- Add cross ties, collectors, and additional strengthening hardware as needed to complete load path.
- Check the connection of the trusses to the perimeter walls. Strengthen as needed.
- Test and analyze all concrete slabs. Strengthen the slabs as needed.

General Condition

- Repair and/or replace all deteriorated masonry. Patch and grout any areas (in masonry or concrete) where spalling and cracking has occurred.
- Repair the eroded grout (mortar) at masonry walls. It is expected that approximately 20-80% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building may need to be repointed.
- Replace deteriorated and insufficient wood members with new members.
- Strengthen the foundations and stem walls of the building. This process should include shoring and excavating localized sections to install the footings. This would be repeated along all load bearing walls and underneath load bearing posts.
- Where small sections of wood framed construction exist, install structural plywood or metal siding on a few walls in each principal direction. The amount of siding needed and the number of walls affected would be determined through an in-depth analysis. Reinstall any character-defining original coverings over top of new plywood if necessary.
- Remove and replace ceilings.
- Patch and grout any reinforced concrete that is spalling and cracking; replace any deteriorated concrete.
- The amount of fire damage at this structure is extensive. Where fire has demolished the building, it will be necessary to remove and replace deteriorated structure. This will involve reconstruction of the roof, interior walls, and floor; it may also involve reconstruction of the exterior walls and foundations.

Figure 1: Roof framing, shown at LACO No. 1205

Figure 2: South elevation showing typical window openings and cracking at foundation

Figure 3: Fallen shingles and other roof damage

Figure 4: Damaged ceiling & evidence of prolonged moisture at LACO No. 1205

Figure 5: Fire damaged roof

Figure 6: Fire damage at west wing; roof has been completely deteriorated

Figure 7: Charred and disintegrated header beam

Figure 8: Cracking at fire-damaged ceiling and wall seen at LACO No. 1205

Figure 9: Deterioration of brick masonry and mortar, shown at LACO No. 1205

Figure 10: Connecting walkway at north side

Figure 11:Connecting masonry wall at south side

C LACO No. 1204 (Men's Psychiatric Ward) – Preservation/Adaptive Reuse Cost Plan

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Feasibility Study Cost Plan

Men's Psychiatric Ward (LACO 1204)

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Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1204)

			SF	$/SF	TOTAL $ x 1,000
B1	Men's Psychiatric Ward (LACO 1204)		28,917	490.54	14,185
SUB-TOTAL BUILDING CONSTRUCTION			28,917	490.54	14,185
S1	Sitework		50,000	53.88	2,694
	Premium for enhanced sustainable site features				253
SUB-TOTAL SITEWORK					2,947
TOTAL BUILDING AND SITEWORK					**17,132**
Escalation to Midpoint (Jul 2021)		11.7%			1,998
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			1,530
	Project Management Consultant Services	3.0%			620
	FF & E	5.8%			1,234
	Taxes and Indirect Fees	1.0%			225
	Building Permit and Other Agency Fees	1.5%			341
	Owner Contingency/Construction Contingency	25.0%			5,770
Recommended Budget					***28,850***

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Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1204) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	28,917		
TOTAL GROSS FLOOR AREA	**28,917**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.035
Gross Area		28,917	SF	1.000
Enclosed Area		28,917	SF	1.000
Covered Area		0	SF	-
Footprint Area		28,917	SF	1.000
Gross Wall Area		24,100	SF	0.833
Finished Wall Area		24,100	SF	0.833
Windows or Glazing	13%	3,200	SF	0.111
Roof Area - Sloping		31,000	SF	1.072
Roof Area - Total		31,000	SF	1.072
Roof Glazing Area		0	SF	-
Interior Partitions		1,190	LF	0.041
Finished Area		28,917	SF	1.000

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Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1204) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	28,917 SF	
A10	Foundations		3%	17.03	493
A20	Basement Construction		0%	0.00	0
A	Substructure		3%	17.03	493
B10	Superstructure		12%	57.51	1,663
B20	Exterior Enclosure		6%	31.65	915
B30	Roofing		5%	23.05	667
B	Shell		23%	112.21	3,245
C10	Interior Construction		4%	19.32	559
C20	Stairways		0%	0.00	0
C30	Interior Finishes		12%	60.94	1,762
C	Interiors		16%	80.26	2,321
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		5%	24.39	705
D30	Heating, Ventilation & Air Cond.		9%	45.51	1,316
D40	Fire Protection		1%	7.00	202
D50	Elect'l Lighting, Power & Comm.		15%	72.07	2,084
D	Services		30%	148.96	4,308
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	10.85	314
E	Equipment & Furnishings		2%	10.85	314
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	14.81	428
F	Special Construction & Demolition		3%	14.81	428
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	384.14	11,108
Z10	Design Contingency	10.00%	8%	38.41	1,111
Z11	General Requirements	4.00%	3%	16.90	489
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	439.45	12,708
Z21	General Conditions	6.00%	5%	26.37	762
Z22	Bonds & Insurance	1.50%	1%	6.99	202
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	17.73	513
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	490.54	14,185
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	490.54	14,185

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				144,585
Foundation upgrade	28,917	SF	5.00	144,585
A1030 Slab On Grade				348,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	11,600	SF	30.00	348,000
Remove/replace ramp including railings				*site*
				492,585
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				964,000
Allow shotcrete interior face of exterior walls	24,100	SF	40.00	964,000
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				699,000
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	11,000	SF	9.00	99,000
New roof structure including roof sheathing	20,000	SF	30.00	600,000
				1,663,000
B20 Exterior Enclosure				
B2010 Exterior Walls				536,225
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	24,100	SF	8.00	192,800

	Quantity	Unit	Rate	Total
Allow for repair of fire damaged wall	12,050	SF	20.00	241,000
Painting to exterior walls	24,100	SF	3.00	72,300
Loose fill insulation				*n/a*
Painting to interior face of exterior walls (shotcrete area)	24,100	SF	1.25	30,125
B2020 Exterior Windows				352,000
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	1,600	SF	100.00	160,000
New windows similar kind, high performance glazing; allow 20%	1,600	SF	120.00	192,000
B2030 Exterior Doors				27,000
Solid core wood doors including frames and hardware				
Single leaf	9	EA	3,000.00	27,000
				915,225
B30 Roofing				
B3010 Roof Coverings				666,500
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	31,000	SF	21.50	666,500
B3020 Roof Openings				
				666,500
C10 Interior Construction				
C1010 Partitions				246,000
Patch/repair remaining partitions, encapsulate HCT walls with 4" 16ga metal studs, gypsum board on both sides	1,500	SF	40.00	60,000
New partitions to fire damaged area	3,000	SF	30.00	90,000
Glazed partitions	1,200	SF	80.00	96,000
C1020 Interior Doors				133,018

	Quantity	Unit	Rate	Total
New wood doors including frames and hardware (1/500SF)	58	EA	2,300.00	133,018
C1030 Fittings				179,668
Prefabricated toilet compartment and accessories	32	EA	2,000.00	64,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	28,917	SF	4.00	115,668
				558,686
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				311,040
Repair damaged wall plaster and repaint - interior partitions	23,800	SF	10.00	238,000
Ceramic wall tiles to toilets	1,280	SF	18.00	23,040
Enhance wall finishes	1	LS	50,000.00	50,000
C3020 Floor Finishes				289,170
New floor finishes including base	28,917	SF	10.00	289,170
Existing flooring to remain, allow for cleaning				n/a
C3030 Ceiling Finishes				1,162,095
New gypsum plaster ceiling on wood lathe	28,917	SF	35.00	1,012,095
Allowance for lightcoves and bulkheads	1	LS	150,000.00	150,000
				1,762,305
D10 Conveying Systems				

	Quantity	Unit	Rate	Total
				0
D20 Plumbing Systems				
D2010 Plumbing Fixtures				120,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	60	EA	2,000.00	120,000
D2020 Domestic Water Distribution				202,750
Domestic service pipework				
Hose bibs, 3/4" (allowance)	4	EA	2,500.00	10,000
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	60	EA	3,000.00	180,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	12,750.00	12,750
D2030 Sanitary Waste				266,751
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	28,917	SF	2.00	57,834
Condensate drainage pipework, fittings, < = 1-1/2", insulated	28,917	SF	1.00	28,917
Waste, vent, fittings, < = 6"	60	EA	3,000.00	180,000
D2040 Rain Water Drainage				86,751
Surface water drainage				
Roof & overflow drains, < = 6"	28,917	SF	3.00	86,751
D2090 Other Plumbing Systems				28,917
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	28,917	SF	1.00	28,917
				705,169

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				309,087
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	1,250	mbth	27.50	34,375
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	28,917	SF	1.50	43,376
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	28,917	SF	8.00	231,336
D3040 Distribution Systems				656,958
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	36,146	LB	12.00	433,755
Dampers	1	LS	43,375.50	43,376
Insulation	27,110	SF	4.50	121,994
Diffusers, registers and grilles	28,917	SF	2.00	57,834
D3050 Terminal & Package Units				168,917
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	29	EA	1,000.00	28,917
D3060 Controls and Instrumentation				130,127
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	28,917	SF	4.50	130,127
D3070 Systems Testing & Balancing				43,376
Test and balance air systems	28,917	SF	1.50	43,376
D3090 Other HVAC Systems & Equipment				7,500
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	7,500.00	7,500
				1,315,964

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				202,419
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	28,917	SF	7.00	202,419
				202,419
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				276,710
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,200	AM	65.00	78,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	100	kVA	975.00	97,500
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	28,917	SF	3.50	101,210
D5020 Lighting & Branch Wiring				1,156,680
User convenience power				
Panel board breakers, 120 V circuits	28,917	SF	2.00	57,834
Receptacles, including conduit and cable	28,917	SF	5.50	159,044
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	28,917	SF	27.50	795,218

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	28,917	SF	5.00	144,585
D5030 Communications & Security				404,838
Telephone and communications				
Telephone/data - including conduit & cable	28,917	SF	6.50	187,961
WAP	28,917	SF	1.00	28,917
DAS - Emergency response & cellular	28,917	SF	4.00	115,668
Cable tray/wire-way/j-hooks	28,917	SF	1.00	28,917
Audiovisual rough-in	28,917	SF	1.50	43,376
D5090 Other Electrical Systems				245,795
Fire alarm systems	28,917	SF	4.50	130,127
Security - perimeter access control & CCTV surveillance	28,917	SF	4.00	115,668
				2,084,022
E10 Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				313,800
Cabinets, countertops shelving and millwork	200	LF	1,200.00	240,000
Lavatory countertop	36	LF	300.00	10,800
Window treatment, mechoshade, manual	3,200	SF	15.00	48,000
Entrance mat	1	LS	15,000.00	15,000
				313,800
F10 Special Construction				
				0

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Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1204)

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				211,518
Demo/remove portion of slab on grade	11,600	SF	3.00	34,800
Exterior window	1,600	SF	5.00	8,000
Doors	67	EA	150.00	10,025
Roofing including roof structure - fire damaged	20,000	SF	1.50	30,000
Roofing including roof sheathing	11,000	SF	1.00	11,000
Demo/remove 75% of existing partitions	13,400	SF	3.00	40,200
Demo interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	28,917	SF	2.50	72,293
Allow for clearing/removal of storage debris	80	MH	65.00	5,200
F2020 Hazardous Components Abatement				216,878
Hazmat abatement - allowance	28,917	SF	7.50	216,878
				428,395

Feasibility Study Cost Plan — Men's Psychiatric Ward (LACO 1204)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Men's Psychiatric Ward (LACO 1204)				
Gross Site Area	78,900	SF		
Building footprint	28,917	SF		
Net Site Area	50,000	SF		
General site clearing, demo and remove paving/landscaping	50,000	SF	4.00	200,000
Site paving, site structures, fencing, landscaping & irrigation	50,000	SF	25.00	1,250,000
Premium for permeable paving	25,000	SF	13.00	325,000
Remove/replace ramp including railings	8	EA	7,500.00	60,000
Site lighting and drainage	50,000	SF	2.00	100,000
Site utilities	50,000	SF	3.50	175,000
Alternate Cost Before Markups				**2,110,000**
Z10 Design Contingency	10.00%			211,000
Z11 General Requirements	4.00%			92,840
Z21 General Conditions	6.00%			144,830
Z22 Bonds & Insurance	1.50%			38,380
Z23 Contractor's Overhead, Profit & Fee	3.75%			97,389
				2,694,440

D LACO No. 1204 (Men's Psychiatric Ward) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Men's Psychiatric Ward #1204

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Men's Psychiatric Ward (LACO #1204) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Men's Psychiatric Ward #1204 is provided as part of the Feasibility Study with

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

additional information about the value and significance of specific features, materials, and finishes. However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Men's Psychiatric Ward (LACO #1204), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or

	braced or reinforced.	alternative standards under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction*

		system. Provide rain leader extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details Illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior plaster has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups. Allow maximum time for natural evaporation and use large fans to promote circulation through the building during the dry-out.
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the exterior appears to be acceptable. *Individual areas and windows may need repair to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the current rainy season. *Cut and remove weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects have not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

		Damaged materials will need to be removed. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged and now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building*

		• *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire*

		department *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for*

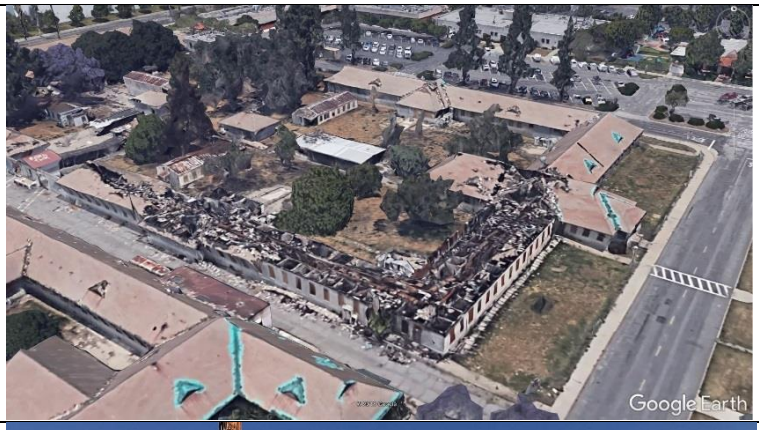
		landscape maintenance above.
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances

		• check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS

Men's Psychiatric Ward #1204

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	50% of building severely fire damaged.	
2	South elevation	

3	Street View (looking northwest)	
	Street view (looking west). Roof and most of structure destroyed.	

E LACO No. 1204 (Men's Psychiatric Ward) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Men's Psychiatric Ward (LACO 1204)

MGAC

Mothballing Cost Plan — Men's Psychiatric Ward (LACO 1204)

			SF	$/SF	TOTAL $ x 1,000
B1	Men's Psychiatric Ward (LACO 1204)		28,917	34.55	999
TOTAL BUILDING CONSTRUCTION			28,917	34.55	999
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**999**
Escalation to Midpoint (Jul 2021)		11.7%			117
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			45
	Project Management Consultant Services	2.0%			23
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			12
	Building Permit and Other Agency Fees	1.5%			18
	Owner Contingency/Construction Contingency	10.0%			121
Recommended Budget					***1,335***

MGAC

Mothballing Cost Plan — Men's Psychiatric Ward (LACO 1204)

Item Description	Quantity	Unit	Rate	Total
1.) Men's Psychiatric Ward (LACO 1204)				
No of floors	***1***	***EA***		
Gross Floor Area	***28,917***	***SF***		
Gross Wall Area	***24,100***	***SF***		
Roof Area	***31,000***	***SF***		
Windows Area	***3,200***	***SF***		
Gross Site Area	***78,900***	***SF***		
Building footprint	***28,917***	***SF***		
Net Site Area	***50,000***	***SF***		
Stabilized structure	28,917	SF	2.50	72,293
Repaint exterior walls	24,100	SF	2.00	48,200
Protect existing openings (exterior doors)	18	EA	800.00	14,400
Install hard protection/boarding to windows	3,200	SF	25.00	80,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	24,100	SF	0.10	2,410
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	31,000	SF	15.00	465,000
Termites, ants, rodents etc - inspection and allowance for treatment	28,917	SF	0.25	7,229
Install smoke & fire detectors including wiring	28,917	SF	1.00	28,917
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	10	EA	275.00	2,750
Remove debris and broom clean	28,917	SF	0.75	21,688
Clear site of weeds and overgrown trees	50,000	SF	0.50	25,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**777,387**
Z10 Design Contingency	15.00%			116,608
Z11 General Requirements	3.00%			26,820
Z21 General Conditions	3.00%			27,624
Z22 Bonds & Insurance	1.50%			14,227
Z23 Contractor's Overhead, Profit & Fee	3.75%			36,100
				998,765

Feasibility Study Reports for LACO No. 1254 (Chapel/Computer Center)

Secondary Contributor

ESA

A LACO No. 1254 (Chapel/Computer Center) – Architectural Assessment Report

Chapel Computer Center (LACO 1254)

2,414 s.f.
Built 1907
Secondary Contributor to the Historic District

Building Description

The Chapel/Computer Center (LACO No. 1254) is located east of Erickson Avenue and directly southeast of the Women's Psychiatric Ward. L-shaped in plan, the one-story building consists of an original north wing and a post-1955 recessed south wing. The wood-framed building is capped by a medium-pitched, cross gabled roof. Exposed beams and rafters visible in older photographs of the north wing, which imparted a Craftsman influence, have been removed. The front-gabled north wind is symmetrical in design. Centered on its façade, an attached porch is elevated five steps above ground level and capped by a hipped roof. Square piers support the porch roof. A horizontal louver vent is centered in the gable end above the porch roof. Single windows on either side of the porch were originally round-headed; they appear to have been replaced. Widely spaced single windows define six bays on the north elevation, with a seventh bay containing a secondary entrance. Four bays remain on the south elevation, west of the attached newer wing. The building sits on a concrete slab foundation and is clad in non-original horizontal metal siding. The side-gabled south wing has fewer openings and its south and east elevations are sheltered with stucco.[1]

Statement of Significance

The significance of LACO No. 1254 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> Chapel / Computer Center (LACO No. 1254) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1907 and was the first chapel constructed at the County Poor Farm. The building is currently abandoned. Although the building has been altered, its exterior appearance still recalls its original function. Extant character-defining features include horizontal massing, medium-pitched gabled roof with overhanging eaves, original wood cladding in situ under later metal siding, attached elevated entry porch with hipped roof and square porch supports, and original wood paneled and glazed doors.[2]

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[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Chapel/Computer Center (LACO No. 1254),* prepared for the County of Los Angeles June 2, 2008.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Chapel/Computer Center (LACO No. 1254),* prepared for the County of Los Angeles June 2, 2008.

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **2,500 s.f. Approx.**
• **Exterior walls –** Exterior wood siding has been covered with non-original metal siding.	
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **3 exterior doors**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is	• **18 wood windows**

broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. Multiple remodels have rendered most of the interior plan is not character defining. The original screen porch has been enclosed and made part of building interior.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor.	• **2,414 s.f.**
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area; however, some walls are vandalized and damaged.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **2,414 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

Character Defining features	
• **Roofing –** Replace entire composition shingle roof and waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **2,500 s.f.**

• **Exterior walls** – Remove non-original metal siding, and repair original wood siding underneath; repair and paint plaster. Provide loose-fill insulation in walls per methods to minimize damage at interior faces.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **3 exterior doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **18- 3' x5' wood windows.** • **Assume 10% replace in kind.**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building.	• **5,000 s.f.**

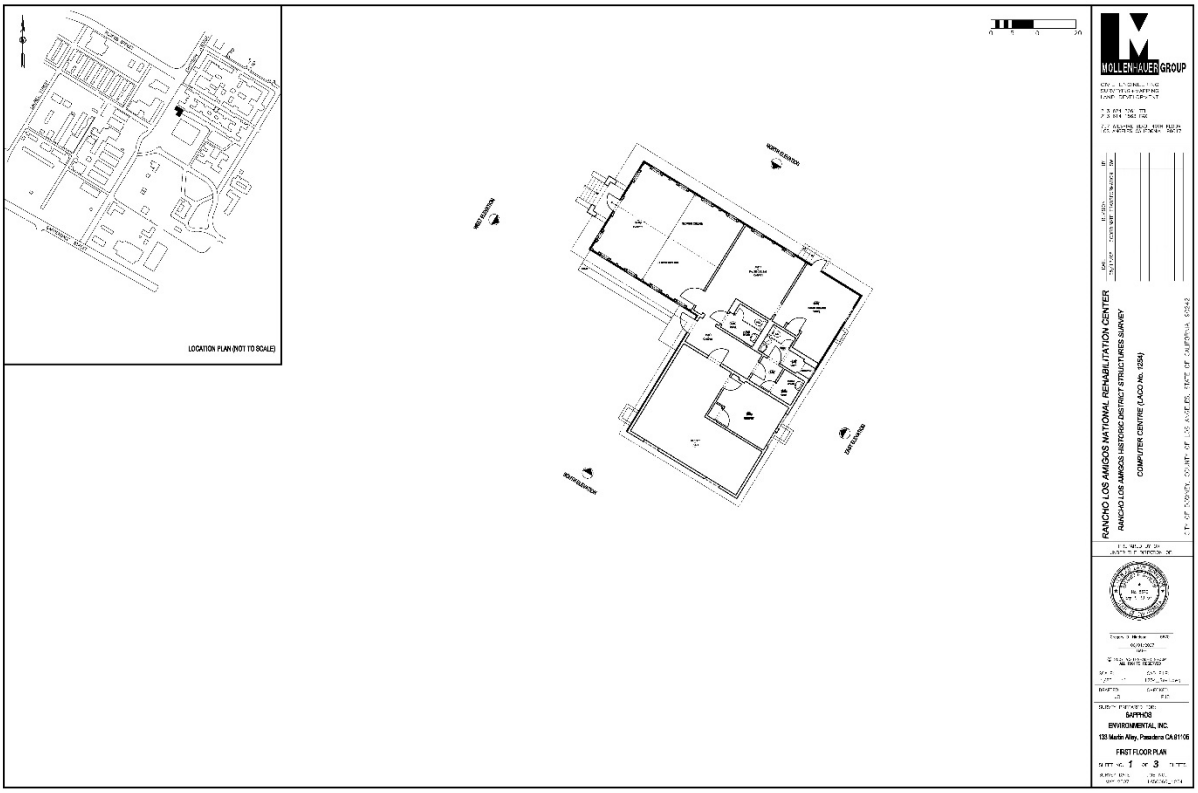
Interior Spaces

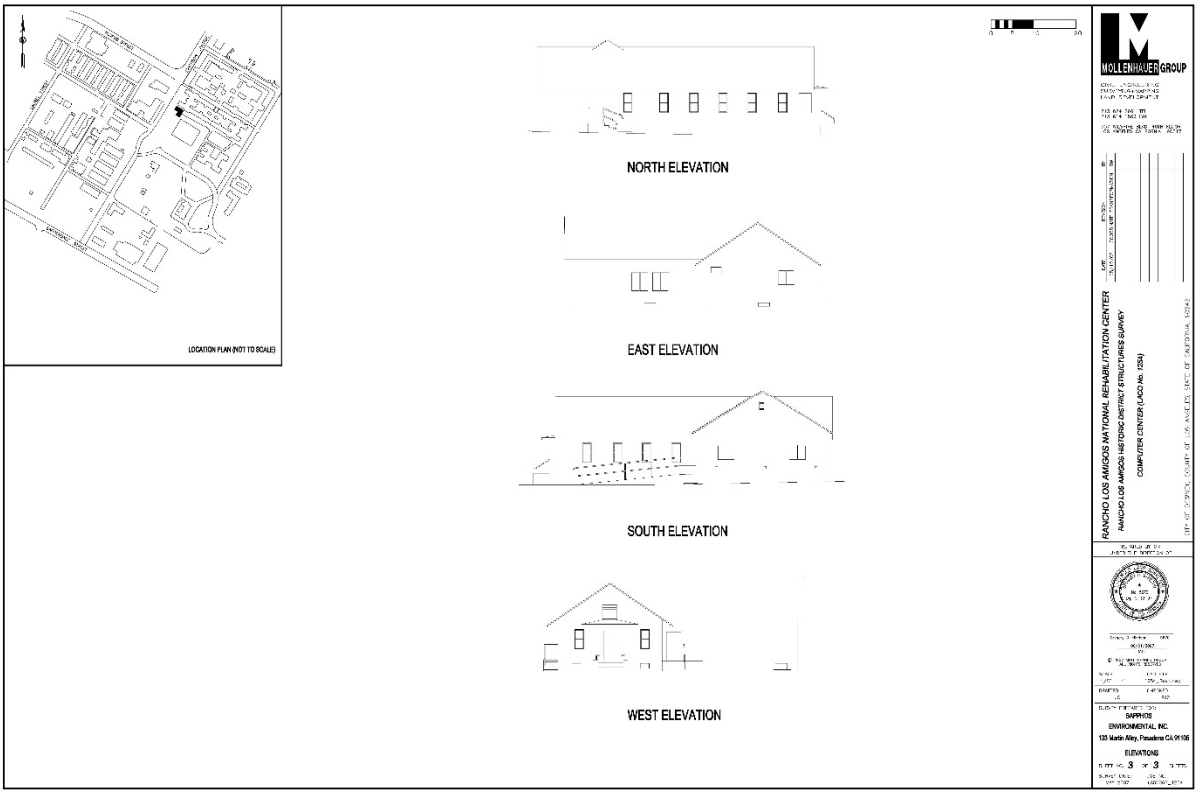
The existing interior spaces were severely vandalized and are water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

It is assumed that this 2,414 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 100% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

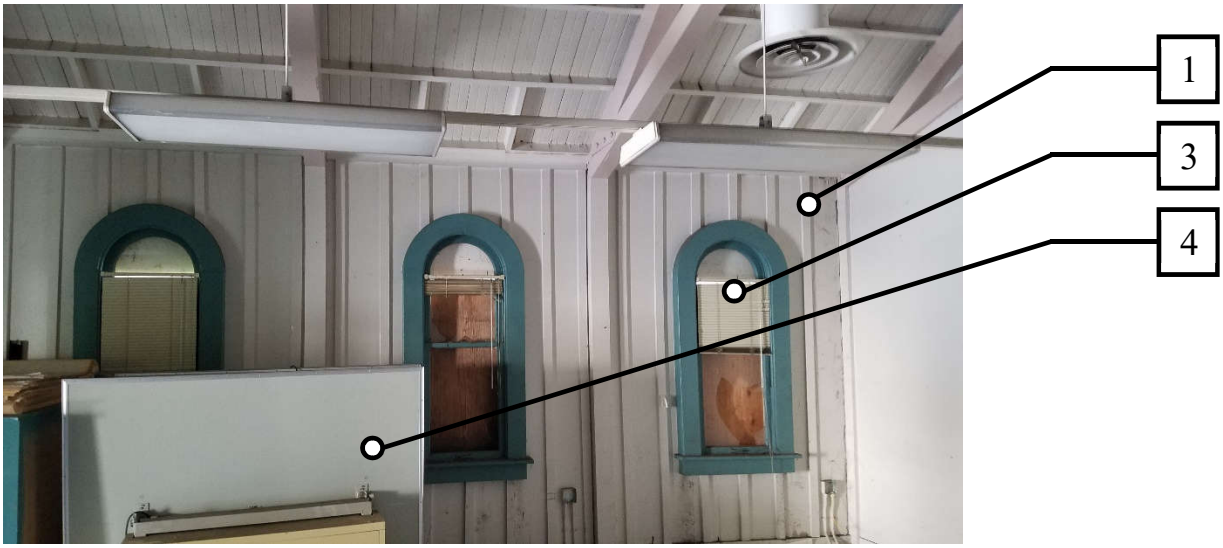
• **Flooring** – Remove and replace floor with new 1 ½" lightweight concrete flooring.	• **2,414 s.f.**
• **Walls –** Clean and repair exposed wood board and batten walls and all damaged plaster in-kind per Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	

• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **2,414 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **20 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 10-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **1 restroom 2 fixture and sink.**
• **Electrical** – Provide new 200 Amp system.	
• **Title 24/ADA requirements –** New restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%	


LOCATION PLAN (NOT TO SCALE)
MOLLENHAUER GROUP
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
COMPUTER CENTRE (LACO No. 1254)
SAPPHOS
ENVIRONMENTAL, INC.
FIRST FLOOR PLAN

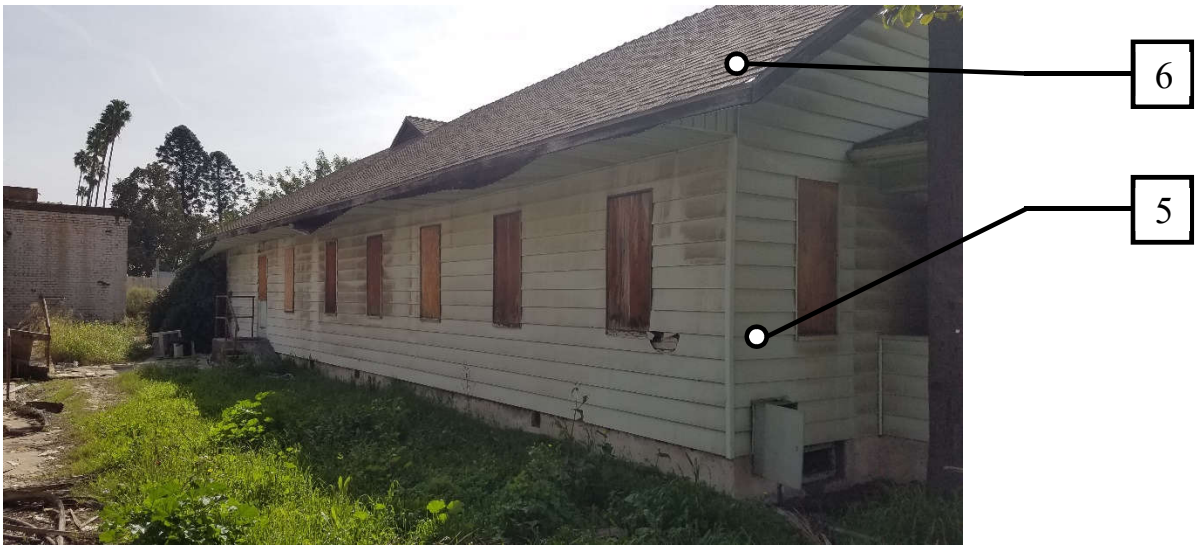

LOCATION PLAN (NOT TO SCALE)
NORTH ELEVATION
EAST ELEVATION
SOUTH ELEVATION
WEST ELEVATION
MOLLENHAUER GROUP
RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER
RANCHO LOS AMIGOS HISTORIC DISTRICT STRUCTURES SURVEY
COMPUTER CENTER (LACO No. 1254)
SAPPHOS
ENVIRONMENTAL, INC.
ELEVATIONS

Exposed Ceiling



Interior Board and Batten Walls

1. Paint interior woodwork.
2. Remove and replace all interior lighting.
3. Repair existing windows.
4. Remove all interior debris.
5. Remove existing metal siding. Repair and paint original wood siding.
6. Remove and replace composition wood shingle roofing.



Exterior wood siding and composition shingle roofing.

1. Paint interior woodwork.
2. Remove and replace all interior lighting.
3. Repair existing windows.
4. Remove all interior debris.
5. Remove existing metal siding. Repair and paint original wood siding.
6. Remove and replace composition wood shingle roofing.

B LACO No. 1254 (Chapel/Computer Center) – Structural Assessment Report

Structural Assessment: Chapel/Computer Center
(LACO NO. 1254)

Summary of Assessment

The Chapel/Computer Center (LACO No. 1254) is a single-story wood building with a total area of approximately 2,414 square feet. The original structure was built in 1908 as a chapel. The gable roof consists of wood trusses and rafters. Wood framing also forms the walls and raised floor.

The expected seismic performance of this building in its current condition is poor. The building does not appear to have significant lateral force resisting capacity. Additionally, the structural components are not properly connected to resist a moderate earthquake. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Chapel/Computer Center is a single-story "L" shaped wood structure (Figure 1 through Figure 3). An elevated entry porch leads to the raised wood floor, which is supported on masonry stem walls and brick piers creating a crawl space below (Figure 4)[1]. The floor consists of 2x framing with diagonal sheathing on top. The gable roof is supported by exposed timber scissor trusses spanning across the short direction and rafters in between the trusses (Figure 5). The trusses are supported by posts at each end, as seen in Figure 6. The roof system is also supported by the perimeter wood stud walls. The roof diaphragm consists of straight board sheathing. The exterior wall coverings typically consist of vinyl siding, which appears to be covering original wood siding (Figure 7 and Figure 11). According to a report by the Historic American Buildings Survey, the building was moved in 1919 from its original location to its current location. The south wing is likely an addition, constructed after the move.

Condition Assessment

The Chapel/Computer Center appears to be in fair condition. The interior wood framing members have been protected from outside elements and appear well preserved. Occasional damage is apparent, such as the peeling paint shown in Figure 8, which might be an indication of water damage to the sheathing. No significant damage was noted at the floor, although the framing was covered by flooring, and the crawl space was not accessible during the most recent observation. The overall roof appeared to be in fair condition, but indications of deterioration and rot were apparent at the fascia (Figure 9). The standing seam panels at the eaves have detached from the fascia at the north side of the building (Figure 10). In some places, the vinyl siding covering the exterior walls is damaged, revealing what appears to be original wood siding (Figure 11).

Evaluation of Structural Performance

Light-framed wood structures tend to perform reasonably well during moderate earthquakes due to their light construction (earthquake forces are proportional to building weight). This is likely the reason why the building appears to have performed decently in past seismic events. However, in the event of a moderate earthquake predicted by current code, this building would be expected to perform below the life safety standard. The age of the building and its lack of a significant lateral force resisting system are associated with a potential risk of partial or total collapse in the event of a moderate earthquake.

The wood siding used on the walls of this structure provides very limited lateral strength. Stronger sheathing such as plywood or other shear wall systems would likely need to replace or supplement the existing wood siding. Additional

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

measures would likely also be required to increase the shear strength of the walls, such as adding holdowns at the ends of each shear wall and bolting each wall to a continuous concrete footing. The straight sheathed roof system used on this building is capable of resisting lateral forces, but its strength may not be sufficient. Further analysis would be needed to determine the required strength of the diaphragm. New plywood diaphragms may need to be installed. The connection from the roof to the walls is likely not sufficient, and new anchors may be needed where the trusses and rafters meet the walls. Collectors would likely need to be strengthened or added to fully transfer lateral forces across the building, especially where the "L" shape of the building creates reentrant corners. The roof supports should be further investigated to determine what additional dead and live loads are allowable for the existing structure.

Summary of Proposed Upgrades

The expected seismic performance of the Chapel/Computer Center in its current condition is fair. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the strength of the structure and its wood shear walls. Strengthening will likely be required at every wall. A full structural analysis would be needed to determine if more than one method of strengthening per wall is required.

- Install new plywood sheathing or steel shear panels on walls in each principal direction. The existing siding, and other character-defining features, could be reinstalled over the new sheathing. It may be necessary to add new interior shear walls across the building, but the layout of the existing structure suggests the existing walls will likely be sufficient.
- All new shear walls would require new cripple wall supports and new shallow foundations.
- Add holdowns at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing sheathing, or the existing sheathing can be removed before new plywood is installed.
- Replace any deteriorated or damaged roof framing members.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.

General Condition

- Replace all damaged or deteriorated wood found in floor, roof, and wall framing. In some instances, strengthening in place may be acceptable.
- Upgrade foundations throughout the building. Brick masonry piers will need to be replaced with concrete piers or encased with concrete.
- Anchor all posts to their pier footings. Anchor all shear walls to continuous footings.
- Repair vinyl siding to protect structure from moisture and other weather-related damage.
- If significant interiors are to be added, such as many new walls or drywall ceilings, further strengthening of the existing structure may be required to support the new weight.

Figure 1: West elevation

Figure 2: North elevation

Figure 3:South elevation

Figure 4: Crawl space, foundations, and underside of floor framing as seen in 2006

Figure 5: Typical roof framing – trusses and rafters

Figure 6: Wood posts at truss ends

Figure 7: Damaged vinyl siding with wood siding beneath

Figure 8: Damaged roof sheathing

Figure 9: Deteriorated fascia and loose nails

Figure 10: Separated panel at eave

Figure 11:Original wood siding under damaged vinyl siding

C LACO No. 1254 (Chapel/Computer Center) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Chapel/Computer Center (LACO 1254)

MGAC

Feasibility Study Cost Plan — Chapel/Computer Center (LACO 1254)

			SF	$/SF	TOTAL $ x 1,000
B1	Chapel/Computer Center (LACO 1254)		2,414	458.57	1,107
SUB-TOTAL BUILDING CONSTRUCTION			2,414	458.57	1,107
S1	Sitework		5,000	88.80	444
	Premium for enhanced sustainable site features				23
SUB-TOTAL SITEWORK					467
TOTAL BUILDING AND SITEWORK					**1,574**
Escalation to Midpoint (Jul 2021)		11.7%			184
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			141
	Project Management Consultant Services	3.0%			57
	FF & E	5.8%			113
	Taxes and Indirect Fees	1.0%			21
	Building Permit and Other Agency Fees	1.5%			31
	Owner Contingency/Construction Contingency	25.0%			530
Recommended Budget					***2,651***

Feasibility Study Cost Plan — Chapel/Computer Center (LACO 1254) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	2,414		
TOTAL GROSS FLOOR AREA	**2,414**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.414
Gross Area		2,414	SF	1.000
Enclosed Area		2,414	SF	1.000
Covered Area		500	SF	0.207
Footprint Area		2,414	SF	1.000
Gross Wall Area		3,400	SF	1.408
Finished Wall Area		3,400	SF	1.408
Windows or Glazing	8%	270	SF	0.112
Roof Area - Sloping		2,900	SF	1.201
Roof Area - Total		2,900	SF	1.201
Roof Glazing Area		0	SF	-
Interior Partitions		184	LF	0.076
Finished Area		2,414	SF	1.000

MGAC

Feasibility Study Cost Plan — Chapel/Computer Center (LACO 1254) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	2,414 SF	
A10	Foundations		2%	10.00	24
A20	Basement Construction		0%	0.00	0
A	Substructure		2%	10.00	24
B10	Superstructure		7%	31.30	76
B20	Exterior Enclosure		13%	60.48	146
B30	Roofing		6%	25.83	62
B	Shell		26%	117.61	284
C10	Interior Construction		4%	18.64	45
C20	Stairways		0%	0.00	0
C30	Interior Finishes		7%	30.78	74
C	Interiors		11%	49.43	119
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		5%	21.08	51
D30	Heating, Ventilation & Air Cond.		12%	56.69	137
D40	Fire Protection		2%	7.00	17
D50	Elect'l Lighting, Power & Comm.		16%	73.40	177
D	Services		34%	158.18	382
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	11.21	27
E	Equipment & Furnishings		2%	11.21	27
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	12.72	31
F	Special Construction & Demolition		3%	12.72	31
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	359.15	867
Z10	Design Contingency	10.00%	8%	35.91	87
Z11	General Requirements	4.00%	3%	15.80	38
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	410.86	992
Z21	General Conditions	6.00%	5%	24.65	60
Z22	Bonds & Insurance	1.50%	1%	6.53	16
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.58	40
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	458.62	1,107
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	458.57	1,107

MGAC

Feasibility Study Cost Plan — Chapel/Computer Center (LACO 1254)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				24,140
Upgrade foundations throughout the building, install concrete pier support as needed below interior bearing walls, hold down hold down at end post of shearwalls, add anchor bolts connection to foundation	2,414	SF	10.00	24,140
A1030 Slab On Grade				
Remove/replace ramp including railings				*Site*
				24,140
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				29,449
Patch/repair raised flooring including restoration of flooring affected by foundation upgrade and plumbing pipework, allow 30%	700	SF	30.00	21,000
Lightweight concrete topping, 1 1/2"	2,414	SF	3.50	8,449
B1020 Roof Construction				46,100
Repair/replace deteriorated roof structure; allow 15%	500	SF	40.00	20,000
Strengthen wall and diaphragm connection; install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, provide new roof sheathing	2,900	SF	9.00	26,100
				75,549

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				109,400
Strengthen existing exterior walls; add shear panels to interior and exterior	3,400	SF	7.50	25,500
Weather barrier at exterior walls	3,400	SF	3.50	11,900
Remove wood siding and reinstall after installation of shear panels, patch/repair where necessary	3,400	SF	10.00	34,000
Patch/repair vinyl cladding to interior face of exterior walls	3,400	SF	4.00	13,600
Loose fill insulation	3,400	SF	3.50	11,900
Repair/repaint exterior wood soffits	500	SF	15.00	7,500
Allow for repair of entrance porch	1	LS	5,000.00	5,000
B2020 Exterior Windows				27,600
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	240	SF	100.00	24,000
New windows similar kind, high performance glazing; allow 20%	30	SF	120.00	3,600
B2030 Exterior Doors				9,000
New exterior doors, single leaf	3	EA	3,000.00	9,000
				146,000
B30 Roofing				
B3010 Roof Coverings				62,350
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	2,900	SF	21.50	62,350
				62,350
C10 Interior Construction				
C1010 Partitions				12,000
Patch/repair existing partitions, 20%	400	SF	30.00	12,000
C1020 Interior Doors				19,350
New wood doors including frames and hardware	9	EA	2,150.00	19,350

Feasibility Study Cost Plan — Chapel/Computer Center (LACO 1254)

	Quantity	Unit	Rate	Total
C1030 Fittings				13,656
Toilet partitions and accessories	2	EA	2,000.00	4,000

	Quantity	Unit	Rate	Total
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	2,414	SF	4.00	9,656
				45,006
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				43,840
Repair damaged wall plaster and repaint - interior partitions	3,200	SF	11.00	35,200
Ceramic wall tiles to toilets	480	SF	18.00	8,640
C3020 Floor Finishes				16,898
New floor finishes including base	2,414	SF	7.00	16,898
Repair existing flooring				*n/a*
C3030 Ceiling Finishes				13,570
Repair damaged ceiling throughout	2,414	SF	5.00	12,070
Allowance for lightcoves and bulkheads	1	LS	1,500.00	1,500
				74,308
D10 Conveying Systems				
				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				6,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	3	EA	2,000.00	6,000
D2020 Domestic Water Distribution				19,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	3	EA	3,000.00	9,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
D2030 Sanitary Waste				16,242
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	2,414	SF	2.00	4,828
Condensate drainage pipework, fittings, < = 1-1/2", insulated	2,414	SF	1.00	2,414
Waste, vent, fittings, < = 6"	3	EA	3,000.00	9,000
D2040 Rain Water Drainage				7,242
Surface water drainage				
Roof & overflow drains, < = 6"	2,414	SF	3.00	7,242
D2090 Other Plumbing Systems				2,414
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	2,414.00	2,414
				50,898

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				26,371
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	125	mbth	27.50	3,438
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	2,414	SF	1.50	3,621
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	2,414	SF	8.00	19,312
D3040 Distribution Systems				54,843
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	3,018	LB	12.00	36,210
Dampers	1	LS	3,621.00	3,621
Insulation	2,263	SF	4.50	10,184
Diffusers, registers and grilles	2,414	SF	2.00	4,828
D3050 Terminal & Package Units				37,414
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	10	Ton	3,500.00	35,000
VAV boxes, terminal reheat (1/1,000 SF)	2	EA	1,000.00	2,414
D3060 Controls and Instrumentation				10,863
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	2,414	SF	4.50	10,863
D3070 Systems Testing & Balancing				3,621
Test and balance air systems	2,414	SF	1.50	3,621
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				136,862

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				16,898
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	2,414	SF	7.00	16,898
				16,898
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				26,324
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	200	AM	65.00	13,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	5	kVA	975.00	4,875
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	2,414	SF	3.50	8,449
D5020 Lighting & Branch Wiring				96,560
User convenience power				
Panel board breakers, 120 V circuits	2,414	SF	2.00	4,828
Receptacles, including conduit and cable	2,414	SF	5.50	13,277
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	2,414	SF	27.50	66,385

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	2,414	SF	5.00	12,070
D5030 Communications & Security				33,796
Telephone and communications				
Telephone/data - including conduit & cable	2,414	SF	6.50	15,691
WAP	2,414	SF	1.00	2,414
DAS - Emergency response & cellular	2,414	SF	4.00	9,656
Cable tray/wire-way/j-hooks	2,414	SF	1.00	2,414
Audiovisual rough-in	2,414	SF	1.50	3,621
D5090 Other Electrical Systems				20,519
Fire alarm systems	2,414	SF	4.50	10,863
Security - perimeter access control & CCTV surveillance	2,414	SF	4.00	9,656
				177,199
E10 Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				27,050
Cabinets, countertops shelving and millwork	20	LF	1,000.00	20,000
Lavatory countertop	10	LF	300.00	3,000
Window treatment, mechoshade, manual	270	SF	15.00	4,050
Entrance mat				*n/a*
				27,050
F10 Special Construction				
				0

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				12,612
Selective demolition				
Exterior window	30	SF	5.00	150
Doors	12	EA	150.00	1,800
Roofing including roof sheathing	2,900	SF	1.00	2,900
Demo and interior partitions, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	2,414	SF	3.00	7,242
Allow for clearing/removal of storage debris	8	MH	65.00	520
F2020 Hazardous Components Abatement				18,105
Hazmat abatement - allowance	2,414	SF	7.50	18,105
				30,717

Feasibility Study Cost Plan — Chapel/Computer Center (LACO 1254)

	Item Description	Quantity	Unit	Rate	Total
1.)	**Sitework - Chapel/Computer Center (LACO 1254)**				
	Gross Site Area	7,400	SF		
	Building footprint	2,414	SF		
	Net Site Area	5,000	SF		
	General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
	Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	25.00	125,000
	Premium for permeable paving	2,500	SF	13.00	32,500
	Remove/replace ramp including railings	2	EA	7,500.00	15,000
	Site lighting and drainage	5,000	SF	6.00	30,000
	Site utilities	5,000	SF	25.00	125,000
	Alternate Cost Before Markups				**347,500**
	Z10 Design Contingency	10.00%			34,750
	Z11 General Requirements	4.00%			15,290
	Z21 General Conditions	6.00%			23,852
	Z22 Bonds & Insurance	1.50%			6,321
	Z23 Contractor's Overhead, Profit & Fee	3.75%			16,039
					443,753

D LACO No. 1254 (Chapel/Computer Center) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Chapel/Computer Center #1254

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Chapel/Computer Center (LACO #1254) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Chapel/Computer Center #1254 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Chapel/Computer Center (LACO #1254), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project, light gauge prefinished aluminum components are an acceptable alternative to a more durable construction system. Provide rain leader*

		extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior wood siding is in acceptable condition. The building is in fair condition, due to being unprotected during very wet rainy season. Any, protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season. *The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season.*

		Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is wood siding in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves.

		• *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing*

		potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*

SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department* *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.*

S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*

U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit

		action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS

Chapel/Computer Center #1254

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	North elevation	
2	Entry door and porch	

3	Interior open ceiling	
	Interior	

E LACO No. 1254 (Chapel/Computer Center) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Chapel/Computer Center (LACO 1254)

MGAC

Mothballing Cost Plan — Chapel/Computer Center (LACO 1254)

			SF	$/SF	TOTAL $ x 1,000
B1	Chapel/Computer Center (LACO 1254)		2,414	44.32	107
TOTAL BUILDING CONSTRUCTION			2,414	44.32	107
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**107**
Escalation to Midpoint (Jul 2021)		11.7%			12
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			5
	Project Management Consultant Services	2.0%			2
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			1
	Building Permit and Other Agency Fees	1.5%			2
	Owner Contingency/Construction Contingency	10.0%			13
Recommended Budget					***142***

MGAC

Mothballing Cost Plan — Chapel/Computer Center (LACO 1254)

Item Description	Quantity	Unit	Rate	Total
1.) Chapel/Computer Center (LACO 1254)				
No of floors	***1***	***EA***		
Gross Floor Area	***2,414***	***SF***		
Gross Wall Area	***3,400***	***SF***		
Roof Area	***2,900***	***SF***		
Windows Area	***270***	***SF***		
Gross Site Area	***7,400***	***SF***		
Building footprint	***2,414***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	2,414	SF	1.50	3,621
Repaint exterior walls	3,400	SF	2.00	6,800
Protect existing openings (exterior doors)	3	EA	800.00	2,400
Install hard protection/boarding to windows	270	SF	25.00	6,750
Seal all openings to eliminate small animals and pests from entering and nesting in the building	3,400	SF	0.10	340
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	2,900	SF	15.00	43,500
Termites, ants, rodents etc - inspection and allowance for treatment	2,414	SF	0.75	1,811
Install smoke & fire detectors including wiring	2,414	SF	1.50	3,621
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	1	EA	275.00	275
Remove debris and broom clean	2,414	SF	0.75	1,811
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**82,928**
Z10 Design Contingency	15.00%			12,439
Z11 General Requirements	3.00%			2,861
Z21 General Conditions	3.00%			2,947
Z22 Bonds & Insurance	1.50%			1,518
Z23 Contractor's Overhead, Profit & Fee	3.75%			3,851
				106,544

Feasibility Study Reports for LACO No. 1264 (Bonita Hall)

Secondary Contributor

ESA

A LACO No. 1264 (Bonita Hall) – Architectural Assessment Report

Bonita Hall (LACO 1264)

5,508 s.f.
Built 1932
Secondary Contributor to the Historic District

Building Description

Bonita Hall (LACO No. 1264) is located on the northeast corner of Juniper Street and Bonita Street, west of the General Ward buildings. In this one-story in height, originally symmetrical in appearance with a basilica-like rectangular plan. Constructed of brick (masonry), the building has been partially stuccoed. A low-pitched, side gable roof with exposed brackets in overhanging eaves tops the building. Spanning most of the south (primary) elevation, a covered loggia, now partially enclosed, is topped by a shed rood attached to the south wall. A corresponding shed roof tops a lowered one-story wing that extends the length of the north elevation. Another shed roofed wing is attached to the west elevation. Rolled asphalt and gravel cover the roof, which originally had tile. Square vents adorned with wrought iron grilles are located in the gabled ends. Rows of small, clearstory-level windows are located above the shed roofs and below the eaves on the north and south elevations. Centered on the east elevation, a large multi-light window features a segmented arch head. A smaller opening, also topped by a segmental arch, is located at the east end of the south elevation. Some original wood casement windows are extant. A window in the east end of the north wing is adorned with a wrought iron grille. Entrances to the building are located along the south and north elevations and generally consist of doors with half glazing.[1]

Statement of Significance

The significance of LACO No. 1264 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> Bonita Hall (LACO No. 1264) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1932 to serve as a recreational venue for the County Poor Farm. The building was originally constructed in the Spanish Colonial Revival style but underwent alterations when it was converted to office space in the 1970s. The building is currently abandoned. Although the building's exterior has been altered, the building still overall reflects the District's period of significance. While somewhat compromised by removal of the tile roof and modification of the loggia, the building retains some integrity of design, materials, and workmanship, and substantial integrity of location, feeling, and

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Bonita Hall (LACO No. 1264),* prepared for the County of Los Angeles June 2, 2008.

association. Intact character-defining features include basilica like plan incorporating a loggia; prominent east window defined by segmental arched opening; low-pitched side-gabled roof with moderately overhanging eaves and exposed brackets; and tile pavement. Its setting has been altered through the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **5,600 s.f.**
• **Exterior walls –** Exterior brick masonry walls have been painted and infilled of exterior plaster are damaged in minimal amount of areas. It is repairable in most areas.	

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Bonita Hall (LACO No. 1264),* prepared for the County of Los Angeles June 2, 2008.

• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **6- 3' steel doors and frames**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **8 -5x7 steel windows** • **6-3'x4' steel windows** • **8- 2'x3' clear story windows**

Interior Space – Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **5,508 s.f.**
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area.	• **4,000 s.f.**
• **Ceiling** – Exposed ceiling in main room has a suspended ceiling assembly below open wood truss and roof structure. Suspended ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **5,508 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were	

observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

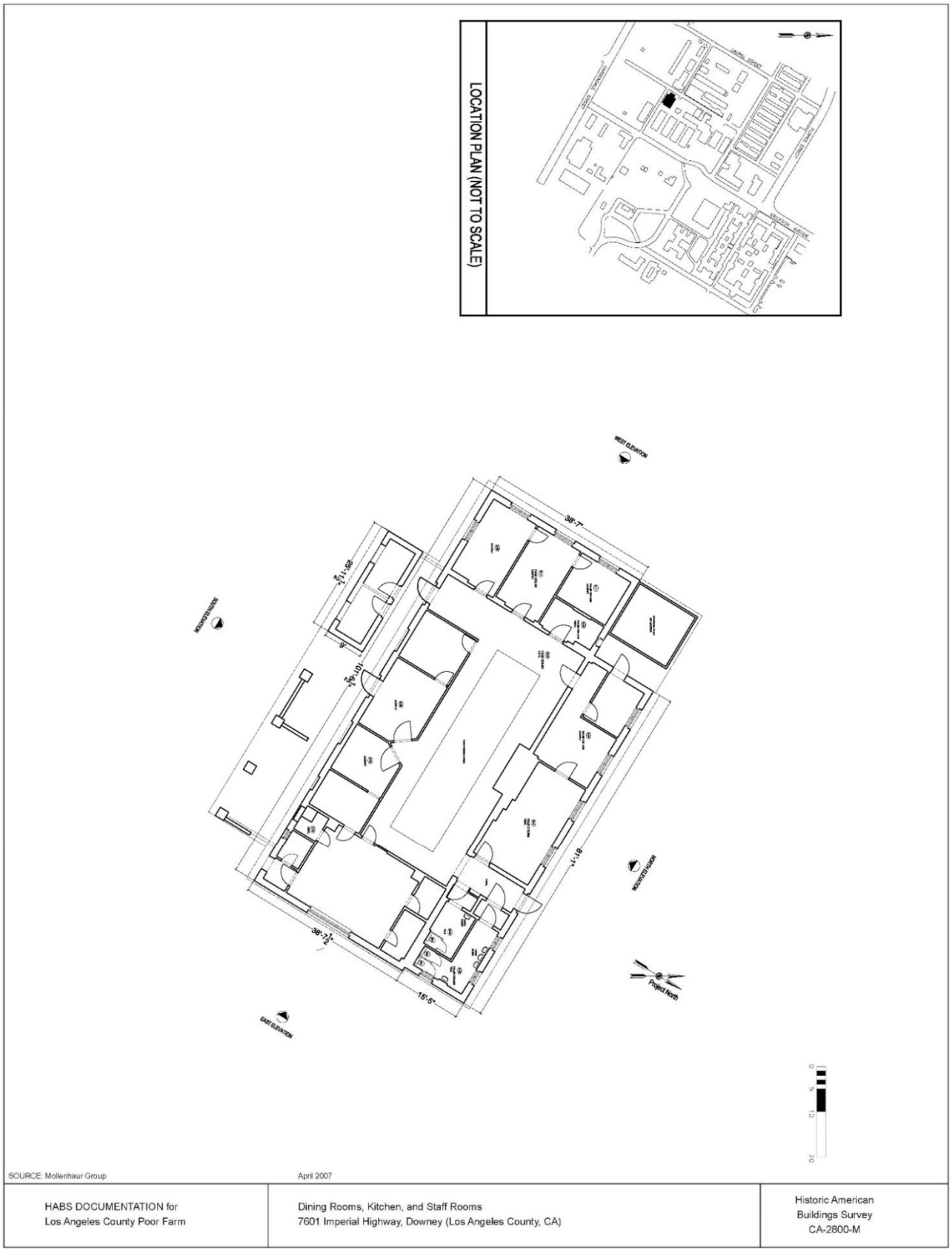
Character Defining features	
• **Roofing –** Replace entire composition roof assembly with new clay tile roof, plywood, and waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, batt insulation, waterproofing membrane and flashing.	• **5,800 s.f.**
• **Exterior walls** – Remove all paint from brick masonry and repaint grout and paint.	• **4,000 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **6 – 3' new exterior steel doors and frames.**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **8 -5x7 steel windows** • **6-3'x4' steel windows** • **8- 2'x3' windows**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building. Perimeter exterior landscaping to be landscape and irrigation.	• **3,000 s.f.**

Interior Spaces

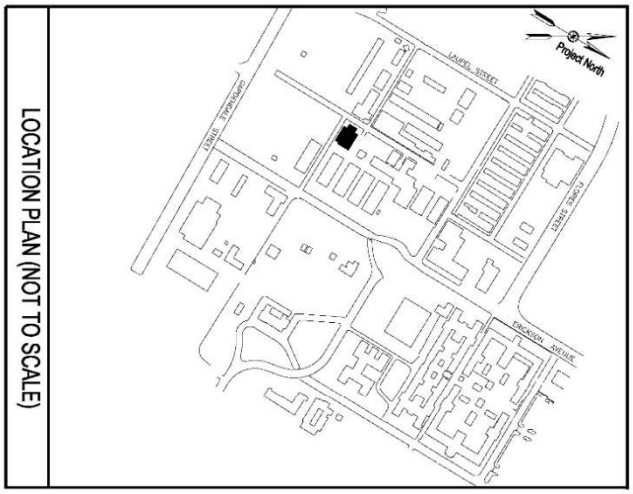
The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

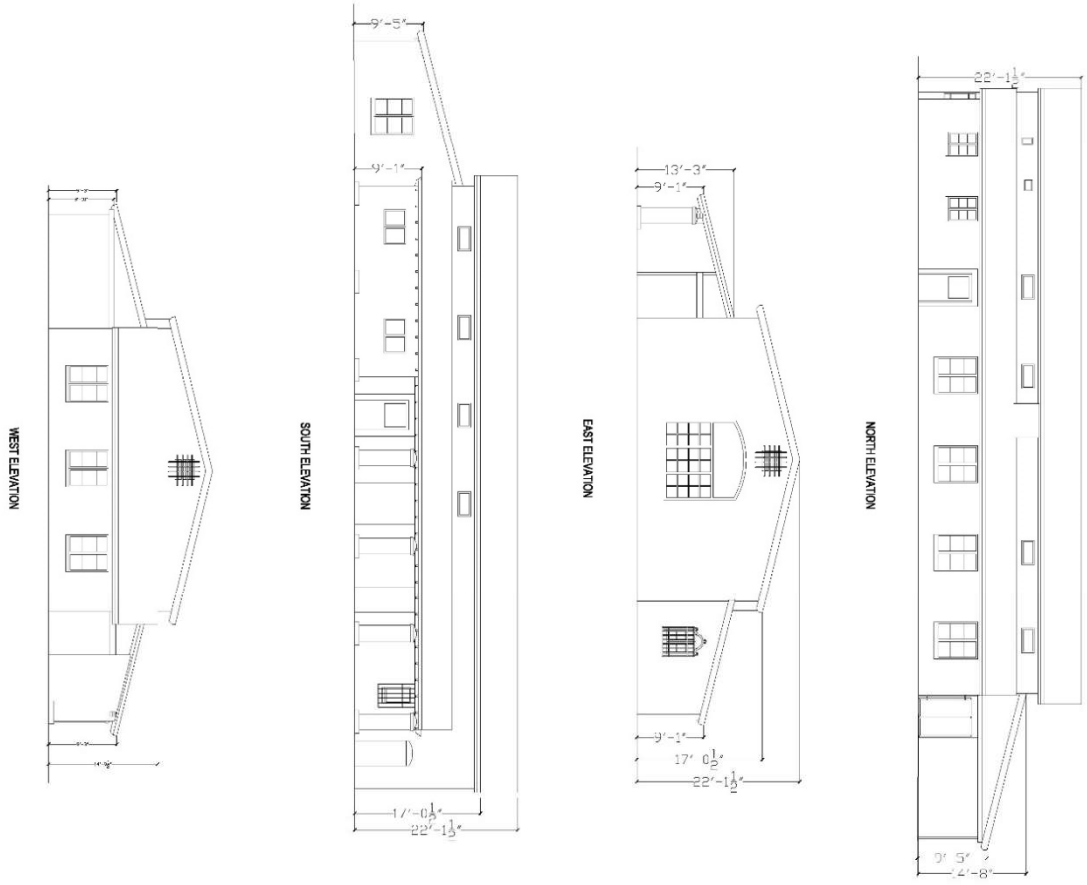
It is assumed that this 5,500 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 100% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Remove and replace concrete flooring.	• **5,508 s.f.**
• **Walls –** Remove paint from masonry, and repair damaged plaster in-kind per Secretary of the Interior's Standards.	• **4,500 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **5,508 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **40 l.f.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 15-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **Provide new restroom core with 6 plumbing total fixtures in men's and women's restroom.**
• **Electrical** – Provide new 400 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Existing path of travel at entrances appear to be in conformance with minimal change.	


LOCATION PLAN (NOT TO SCALE)
WEST ELEVATION
SOUTH ELEVATION
NORTH ELEVATION
EAST ELEVATION
38'-7"
25'-11½"
10'-6½"
8'
38'-7½"
15'-5"
Project North
SOURCE: Mollenhaur Group
April 2007
HABS DOCUMENTATION for
Los Angeles County Poor Farm
Dining Rooms, Kitchen, and Staff Rooms
7601 Imperial Highway, Downey (Los Angeles County, CA)
Historic American
Buildings Survey
CA-2800-M

LOCATION PLAN (NOT TO SCALE)





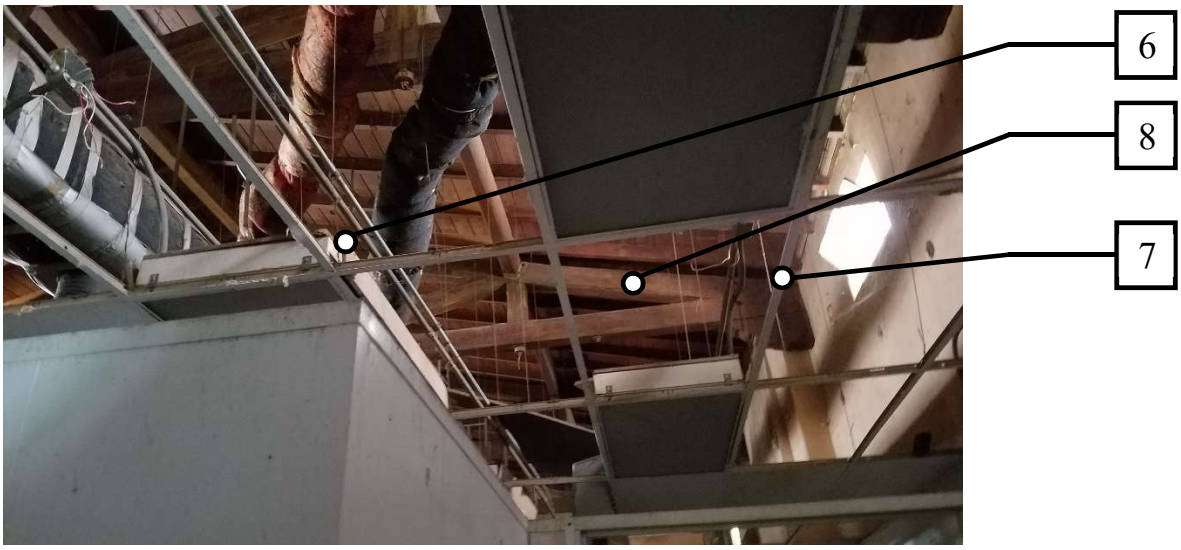
SOURCE: Mollenhauer Group April 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	Bonita Hall 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-M

Southeast Corner

Interior Hall

1. Remove all site debris, provide new hardscape and landscape.
2. Repair existing masonry and grout.
3. Clean and refinish existing wrought iron grilles and vents.
4. Remove plywood, repair existing windows.
5. Clean, repair, and repaint all interior walls.
6. Remove and replace existing lighting throughout.
7. Remove all existing suspended ceiling systems throughout.
8. Repaint existing exposed wood ceiling and structure.
9. Remove gravel roof and provide new roof tile.



Damaged Suspended Ceiling Assembly

South Elevation

1. Remove all site debris, provide new hardscape and landscape.
2. Repair existing masonry and grout.
3. Clean and refinish existing wrought iron grilles and vents.
4. Remove plywood, repair existing windows.
5. Clean, repair and repaint all interior walls.
6. Remove and replace existing lighting throughout.
7. Remove all existing suspended ceiling systems throughout.
8. Repaint existing exposed wood ceiling and structure.
9. Remove gravel roof and provide new roof tile.

B LACO No. 1264 (Bonita Hall) – Structural Assessment Report

Structural Assessment: Bonita Hall
(LACO NO. 1264)

Summary of Assessment

The one-story Spanish Colonial Revival building Bonita Hall (LACO No. 1264) was constructed in 1932 with brick masonry walls and a wood gable roof supporting red clay tiles. The building is rectangular in plan and features projecting walls and roofs on the north, south, and west sides. The total floor area is approximately 5,508 square feet. During the 1970s, Bonita Hall was retrofitted to perform better in the event of a moderate earthquake. Roof-to-wall anchors and a four-inch thick layer of shotcrete were added. Concrete pilasters and a plywood roof diaphragm may have been added as well. The clay tile roof was replaced with a composite roof. Out-of-plane wall strength and anchorage were improved, but significant analysis would still be necessary to determine whether this retrofit meets a Collapse Prevention or Life Safety Performance Level.

The expected seismic performance of this building in its current condition is difficult to determine since little is known about the retrofit. Measures were taken to improve the building's capacity to resist a moderate earthquake, but the retrofit was not conducted according to current code. Further structural upgrades and seismic strengthening would likely be required. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

Bonita Hall is an unreinforced brick masonry building with wood roof framing. The building footprint measures approximately 102 feet x 54 feet with a total floor area of approximately 5,508 square feet. The wood gable roof of Bonita Hall is 22 feet in height at the ridge and originally supported a red-clay tile roof which has since been replaced with a composite roof. The unreinforced masonry walls are two wythes thick and appear to be in decent condition. On the south side, a lower roof projects onto brick masonry columns, creating a covered walkway shown in Figure 1 and Figure 2. On the north and west sides of the building lower roofs project onto outer walls. The north elevation is shown in Figure 3[1] and Figure 4. The main gable roof is constructed with post and timber trusses, as shown in Figure 5. These trusses support straight board sheathing. The truss connections are formed with custom steel connectors. The lower roofs consist of wood rafters spaced approximately two feet on center with straight board sheathing above the rafters. The floor consists of wood framing and is raised on concrete stem walls creating a crawl space. The interior walls observed are all partial-height partition walls. They appear to have been added years after the original construction and do not provide gravity or lateral support for the building.

In the 1970s, a retrofit was done to increase structural performance of this building. The exterior brick walls were strengthened with four-inch thick shotcrete, as shown in Figure 6. The roof rafters were anchored to the walls with steel anchors, as shown in Figure 7. Figure 8 shows where concrete walls were added on the south side at the brick masonry columns: east-west infill walls were added between three column bays, and two north-south walls were added to support the transverse direction. The clay tile roofing was also replaced with composite roofing.

Condition Assessment

Bonita Hall appears to be in fair condition compared to other buildings at the Rancho Los Amigos site. The masonry appears to have minimal deterioration, and the wood framing appears to be in decent condition, except for evidence of potential water damage in a few areas, as shown in Figure 9. It appears that the steel truss connections are in decent

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

condition, but likely would need to be strengthened to meet current code requirements. In some areas, plaster on the interior side of the masonry walls has deteriorated, as shown in Figure 10.

Steps were taken during the remodel to add lateral resistance for in-plane and out-of-plane earthquake forces. The added shotcrete and anchors provide some of this additional resistance. The shotcrete also provides newer surfaces and weather protection for the original walls. The anchors, shown in Figure 7, are likely inadequate for current life safety requirements. All anchors should be checked and reinstalled or replaced as needed. The extent and condition of the building foundation is unknown. It is likely that the foundations would need to be strengthened around the building perimeter, especially if this was not part of the retrofit. All shear walls would need to be anchored to their foundations.

Evaluation of Structural Performance

The structural performance of Bonita Hall in a moderate earthquake is expected to be poor to fair. Although a retrofit was completed to increase the building's lateral strength and performance, the building may still not have a lateral system that meets the Life Safety Performance Level of current code. Extensive analysis would be required to determine to what degree the 1970s remodel has mitigated potential earthquake damage and what further retrofit measures are needed. Replacement of the clay tile roof with composite roofing served to lighten the building weight. The lower building weight results in lower forces induced during a moderate earthquake, but the new roof type is inconsistent with the historic character of the building. The roof will likely need to be replaced again to replicate the original clay tile roof. Improvements to the building's lateral system will need to account for this heavier roof weight. The wall anchorage and shotcrete that were added improve the strength of the building and decrease risk of partial collapse from out-of-plane earthquake forces. The shotcrete also adds shear strength to the building to resist in-plane forces. The added shotcrete and the fact that this building has minimal, small window openings indicate that it may have adequate shear resistance. However, as mentioned above, a detailed analysis would be needed to confirm if additional shear strength is required.

The roof diaphragm is straight board sheathing. This construction method is still allowed by code but is not expected to provide enough diaphragm strength. It is assumed that a plywood diaphragm was added to the top of the sheathing during the 1970s retrofit. If so, the roof diaphragm as a whole may have sufficient strength. If a plywood diaphragm was not already added, plywood should be installed in place of or in addition to the existing diaphragm. Though wall anchors were added in the previous retrofit, the anchors may need to be strengthened or supplemented to help transfer roof forces into the walls. Additionally, collectors may be needed to transfer the lateral forces across the building.

Summary of Proposed Upgrades

The expected structural performance of the Bonita Hall building is difficult to ascertain without extensive testing and analysis due to the fact that it was retrofitted previously, but not under current code. Though some measures prescribed below may be found to have been implemented already, it is assumed that the building does not fully comply with current code. The following rehabilitation measures, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced masonry walls. This has already been done once, but analysis may find that four inches of shotcrete is insufficient. Additional anchors would likely need to be drilled into the masonry to properly connect the outside face to the shotcrete. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side walls that do not already have a shotcrete exterior.

- Install new steel brace frames or concrete shear walls to reduce stresses on existing walls.
- Surface coat the walls with fiber reinforced polymer (FRP).
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be interrupted by a network of steel tube framing.
- Strengthen concrete footings as needed beneath the perimeter walls and any shear walls. Add anchors between the walls and the footings.

Diaphragm

- Install new steel anchors between walls and diaphragm. The existing anchors may or may not meet current code requirements. Anchors should be installed around the entire perimeter of the building. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Analyze the truss-to-wall connections and provide strengthening if necessary. Secondary gravity supports, such as wood posts, would likely be needed at the end of each truss. Concrete footings would be required beneath the new pipe columns.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Remove and replace existing roofing to install structural plywood sheathing over the entire roof if this has not already been done or if the existing plywood is not sufficient. The plywood may be overlaid on the existing straight board sheathing, or the straight board sheathing can be removed before new plywood is installed.

General Condition

- Repair or replace any deteriorated masonry.
- Repair mortar where it has eroded between the bricks via repointing. It is expected that only 5% to 30% of the masonry will need to be repointed, though more repointing may be required to achieve a consistent appearance for the building exterior.
- Replace deteriorated and insufficient wood members with new members.
- Strengthen the foundations and stem walls of the building as needed. This process should include shoring and excavating localized sections to strengthen or add footings.

Figure 1: Bonita Hall, viewed from the southeast corner

Figure 2: Covered walkway at south side

Figure 3: Northeast elevation

Figure 4: Northwest elevation

Figure 5: Typical roof framing including truss

Figure 6: Shotcrete layer visible at the window opening

Figure 7: Anchors between roof framing and wall

Figure 8: Added concrete walls at south elevation

Figure 9: Signs of moisture damage in roof sheathing

Figure 10: Exposed brick exterior wall where plaster has deteriorated

C LACO No. 1264 (Bonita Hall) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Bonita Hall (LACO 1264)

MGAC

Feasibility Study Cost Plan — Bonita Hall (LACO 1264)

			SF	$/SF	TOTAL $ x 1,000
B1	Bonita Hall (LACO 1264)		5,508	459.69	2,532
SUB-TOTAL BUILDING CONSTRUCTION			5,508	459.69	2,532
S1	Sitework		3,000	85.00	255
	Premium for enhanced sustainable site features				42
SUB-TOTAL SITEWORK					297
TOTAL BUILDING AND SITEWORK					**2,829**
Escalation to Midpoint (Jul 2021)		11.7%			330
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			253
	Project Management Consultant Services	3.0%			102
	FF & E	5.8%			204
	Taxes and Indirect Fees	1.0%			37
	Building Permit and Other Agency Fees	1.5%			56
	Owner Contingency/Construction Contingency	25.0%			953
Recommended Budget					***4,764***

Feasibility Study Cost Plan — Bonita Hall (LACO 1264) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	5,508		
Subtotal of Enclosed Areas	5,508		
TOTAL GROSS FLOOR AREA	**5,508**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.182
Gross Area		5,508	SF	1.000
Enclosed Area		5,508	SF	1.000
Covered Area		1,300	SF	0.236
Footprint Area		5,508	SF	1.000
Gross Wall Area		6,500	SF	1.180
Finished Wall Area		6,500	SF	1.180
Windows or Glazing	6%	400	SF	0.073
Roof Area - Sloping		6,000	SF	1.089
Roof Area - Total		6,000	SF	1.089
Roof Glazing Area		0	SF	-
Interior Partitions		473	LF	0.086
Finished Area		5,508	SF	1.000

MGAC

Feasibility Study Cost Plan — Bonita Hall (LACO 1264) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	5,508 SF	
A10	Foundations		4%	16.98	94
A20	Basement Construction		0%	0.00	0
A	Substructure		4%	16.98	94
B10	Superstructure		10%	44.12	243
B20	Exterior Enclosure		6%	26.93	148
B30	Roofing		10%	46.39	256
B	Shell		26%	117.44	647
C10	Interior Construction		4%	18.32	101
C20	Stairways		0%	0.00	0
C30	Interior Finishes		7%	30.44	168
C	Interiors		11%	48.76	269
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	20.44	113
D30	Heating, Ventilation & Air Cond.		11%	50.06	276
D40	Fire Protection		2%	7.00	39
D50	Elect'l Lighting, Power & Comm.		16%	73.38	404
D	Services		33%	150.87	831
E10	Equipment		0%	0.00	0
E20	Furnishings		2%	10.46	58
E	Equipment & Furnishings		2%	10.46	58
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	15.52	85
F	Special Construction & Demolition		3%	15.52	85
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	360.03	1,983
Z10	Design Contingency	10.00%	8%	36.00	198
Z11	General Requirements	4.00%	3%	15.84	87
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	411.87	2,269
Z21	General Conditions	6.00%	5%	24.71	136
Z22	Bonds & Insurance	1.50%	1%	6.55	36
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	16.62	92
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	459.75	2,532
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	459.69	2,532

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				27,540
Foundation upgrade	5,508	SF	5.00	27,540
A1030 Slab On Grade				66,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	2,200	SF	30.00	66,000
Remove/replace ramp including railings				*site*
				93,540
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				195,000
Additional shotcrete thickness and additional anchors to existing shotcrete	6,500	SF	30.00	195,000
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				48,000
Install additional steel anchors between walls and diaphragm; install additional steel connectors as needed, add ties, replace roof sheathing	6,000	SF	8.00	48,000
				243,000
B20 Exterior Enclosure				
B2010 Exterior Walls				86,345
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	6,500	SF	8.00	52,000

	Quantity	Unit	Rate	Total
Painting to exterior walls	6,500	SF	3.00	19,500
Painting to interior face of exterior walls (shotcrete area)	6,500	SF	1.25	8,125
Loose fill insulation				*n/a*
Remove paint, repoint masonry grout and repaint - isolated exterior walls and columns	840	SF	8.00	6,720
B2020 Exterior Windows				44,000
Strip and remove rust, retrofit existing wood framed windows, replace hardware, install new high performance glazing	400	SF	110.00	44,000
New windows similar kind, high performance glazing				n/a
B2030 Exterior Doors				18,000
Solid core wood doors including frames and hardware				
Single leaf	6	EA	3,000.00	18,000
				148,345
B30 Roofing				
B3010 Roof Coverings				255,500
New clay roof tile including battens, insulation, flashing, roofing upstands, access and ventilation, caulking and sealants				
Main roof	6,000	SF	35.00	210,000
Canopy roof	1,300	SF	35.00	45,500
B3020 Roof Openings				
				255,500
C10 Interior Construction				
C1010 Partitions				14,000
Remove paint, repoint masonry grout; seal masonry after cleaning and repair, allow 20%	1,400	SF	10.00	14,000
Glazed partitions				*n/a*

MGAC

Feasibility Study Cost Plan — Bonita Hall (LACO 1264)

	Quantity	Unit	Rate	Total
C1020 Interior Doors				52,900
New wood doors including frames and hardware (1/500SF)	23	EA	2,300.00	52,900
C1030 Fittings				34,032
Prefabricated toilet compartment and accessories	6	EA	2,000.00	12,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	5,508	SF	4.00	22,032
				100,932
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				107,560
Repair damaged wall plaster and repaint - interior partitions	9,180	SF	10.00	91,800
Ceramic wall tiles to toilets	320	SF	18.00	5,760
Enhance wall finishes	1	LS	10,000.00	10,000
C3020 Floor Finishes				27,540
Clean and repair concrete	5,508	SF	5.00	27,540
Existing flooring to remain, allow for cleaning				n/a
C3030 Ceiling Finishes				32,540
Repaint existing exposed ceiling	5,508	SF	5.00	27,540
Allowance for lightcoves and bulkheads	1	LS	5,000.00	5,000
				167,640

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
				0
D20 Plumbing Systems				
D2010 Plumbing Fixtures				16,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	8	EA	2,000.00	16,000
D2020 Domestic Water Distribution				34,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	8	EA	3,000.00	24,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
D2030 Sanitary Waste				40,524
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	5,508	SF	2.00	11,016
Condensate drainage pipework, fittings, < = 1-1/2", insulated	5,508	SF	1.00	5,508
Waste, vent, fittings, < = 6"	8	EA	3,000.00	24,000
D2040 Rain Water Drainage				16,524
Surface water drainage				
Roof & overflow drains, < = 6"	5,508	SF	3.00	16,524
D2090 Other Plumbing Systems				5,508
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	5,508.00	5,508
				112,556

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				55,764
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	125	mbth	27.50	3,438
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	5,508	SF	1.50	8,262
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	5,508	SF	8.00	44,064
D3040 Distribution Systems				125,135
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	6,885	LB	12.00	82,620
Dampers	1	LS	8,262.00	8,262
Insulation	5,164	SF	4.50	23,237
Diffusers, registers and grilles	5,508	SF	2.00	11,016
D3050 Terminal & Package Units				58,008
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	15	Ton	3,500.00	52,500
VAV boxes, terminal reheat (1/1,000 SF)	6	EA	1,000.00	5,508
D3060 Controls and Instrumentation				24,786
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	5,508	SF	4.50	24,786
D3070 Systems Testing & Balancing				8,262
Test and balance air systems	5,508	SF	1.50	8,262

	Quantity	Unit	Rate	Total
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				275,704
D40 Fire Protection				
D4010 Sprinklers				38,556
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	5,508	SF	7.00	38,556
				38,556
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				59,903
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	400	AM	65.00	26,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	15	kVA	975.00	14,625
Photovoltaic panels				*n/a*
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	5,508	SF	3.50	19,278
D5020 Lighting & Branch Wiring				220,320
User convenience power				
Panel board breakers, 120 V circuits	5,508	SF	2.00	11,016
Receptacles, including conduit and cable	5,508	SF	5.50	30,294

	Quantity	Unit	Rate	Total
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	5,508	SF	27.50	151,470
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	5,508	SF	5.00	27,540
D5030 Communications & Security				77,112
Telephone and communications				
Telephone/data - including conduit & cable	5,508	SF	6.50	35,802
WAP	5,508	SF	1.00	5,508
DAS - Emergency response & cellular	5,508	SF	4.00	22,032
Cable tray/wire-way/j-hooks	5,508	SF	1.00	5,508
Audiovisual rough-in	5,508	SF	1.50	8,262
D5090 Other Electrical Systems				46,818
Fire alarm systems	5,508	SF	4.50	24,786
Security - perimeter access control & CCTV surveillance	5,508	SF	4.00	22,032
				404,153

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				57,600
Cabinets, countertops shelving and millwork	40	LF	1,200.00	48,000
Lavatory countertop	12	LF	300.00	3,600
Window treatment, mechoshade, manual	400	SF	15.00	6,000
Entrance mat				*n/a*
				57,600

MGAC

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				44,182
Selective demolition				
Demo/remove portion of slab on grade	2,200	SF	3.00	6,600
Exterior window				*n/a*
Doors	29	EA	150.00	4,350
Roofing including roof sheathing	6,000	SF	1.00	6,000
Demo masonry partitions, interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	5,508	SF	4.00	22,032
Allow for clearing/removal of storage debris	80	MH	65.00	5,200
F2020 Hazardous Components Abatement				41,310
Hazmat abatement - allowance	5,508	SF	7.50	41,310
				85,492

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Bonita Hall (LACO 1264)				
Gross Site Area	8,500	SF		
Building footprint	5,508	SF		
Net Site Area	3,000	SF		
General site clearing, demo and remove paving/landscaping	3,000	SF	4.00	12,000
Premium for permeable paving	1,500	SF	13.00	19,500
Site paving, site structures, fencing, landscaping & irrigation	3,000	SF	25.00	75,000
Site lighting and drainage	3,000	SF	6.00	18,000
Site utilities	3,000	SF	25.00	75,000
Alternate Cost Before Markups				**199,500**
Z10 Design Contingency	10.00%			19,950
Z11 General Requirements	4.00%			8,778
Z21 General Conditions	6.00%			13,694
Z22 Bonds & Insurance	1.50%			3,629
Z23 Contractor's Overhead, Profit & Fee	3.75%			9,208
				254,759

D LACO No. 1264 (Bonita Hall) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Bonita Hall #1264

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Bonita Hall (LACO #1264) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Bonita Hall #1264 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes. However,

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Bonita Hall (LACO #1264), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

		California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed, and add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively a roof single ply assembly and flashing is an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters/downspouts have deteriorated are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current season demonstrates that extremely heavy and frequent rainfall occurs. *In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. For a short-term mothballing project light gauge prefinished aluminum component are an acceptable to a more durable construction system.*

M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior masonry has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

		After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1.*
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins, vandalism, fire alarms, security*

		alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department* *Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least*

		once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors.

		No action required
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds

		• check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Southeast corner.	
2	Interior wall condition	

3	Ceiling condition	
4	South elevation windows and doors plywood cover.	

E LACO No. 1264 (Bonita Hall) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Bonita Hall (LACO 1264)

MGAC

Mothballing Cost Plan — Bonita Hall (LACO 1264)

			SF	$/SF	TOTAL $ x 1,000
B1	Bonita Hall (LACO 1264)		5,508	34.86	192
TOTAL BUILDING CONSTRUCTION			5,508	34.86	192
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**192**
Escalation to Midpoint (Jul 2021)		11.7%			22
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			9
	Project Management Consultant Services	2.0%			4
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			2
	Building Permit and Other Agency Fees	1.5%			3
	Owner Contingency/Construction Contingency	10.0%			23
Recommended Budget					***255***

MGAC

Mothballing Cost Plan — Bonita Hall (LACO 1264)

Item Description	Quantity	Unit	Rate	Total
1.) Bonita Hall (LACO 1264)				
No of floors	***1***	***EA***		
Gross Floor Area	***5,508***	***SF***		
Gross Wall Area	***6,500***	***SF***		
Roof Area	***6,000***	***SF***		
Windows Area	***400***	***SF***		
Gross Site Area	***8,500***	***SF***		
Building footprint	***5,508***	***SF***		
Net Site Area	***3,000***	***SF***		
Stabilized structure	5,508	SF	1.50	8,262
Repaint exterior walls	6,500	SF	2.00	13,000
Protect existing openings (exterior doors)	6	EA	800.00	4,800
Install hard protection/boarding to windows	400	SF	25.00	10,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	6,500	SF	0.10	650
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	6,000	SF	15.00	90,000
Termites, ants, rodents etc - inspection and allowance for treatment	5,508	SF	0.25	1,377
Install smoke & fire detectors including wiring	5,508	SF	1.00	5,508
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	2	EA	275.00	550
Remove debris and broom clean	5,508	SF	0.75	4,131
Clear site of weeds and overgrown trees	3,000	SF	0.50	1,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**149,278**
Z10 Design Contingency	15.00%			22,392
Z11 General Requirements	3.00%			5,150
Z21 General Conditions	3.00%			5,305
Z22 Bonds & Insurance	1.50%			2,732
Z23 Contractor's Overhead, Profit & Fee	3.75%			6,932
				191,788

Feasibility Study Reports for LACO No. 1265 (Shelter)

Secondary Contributor

ESA

A LACO No. 1265 (Shelter) – Architectural Assessment Report

Shelter (LACO 1265)

Built 1913
232 s.f
Secondary Contributor to the Historic District

Building Description

Shelter (LACO No. 1265) is located directly west of the Erickson Avenue traffic circle in an ornamental grassy courtyard area. The Shelter is an 18' by 12' wrought-iron metal canopy designed in a Regency-influenced style. The structure consists of a bellcast, hipped roof with prominent ridges, and flared eaves which is supported by four decorative wrought-iron posts. The posts have starbursts and oval designs. A molded and scalloped cornice wraps the eaves. Set into the concrete pavement, the structure is flanked by sidewalks and lawns.[1]

Statement of Significance

The significance of LACO No. 1265 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> The Shelter (LACO No. 1265) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The structure, which at the time of its construction served a commemorative function associated with the 1933 Long Beach earthquake, was erected circa 1933. The structure has suffered no alterations and its exterior appearance still reflects its period of construction. Influenced by the Regency style, the structure retains integrity of location, feeling, association, design, materials, and workmanship. The structure has retained its character-defining features including low-pitched, bell cast, hipped metal roof with prominent ridges; lacy, wrought-iron construction; four L-shaped corner supports with slender posts and geometric motifs; and molded and scalloped cornice. Its setting has been altered through the deterioration of the surrounding landscape.[2]

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[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Shelter (LACO No. 1265),* prepared for the County of Los Angeles June 2, 2008.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Shelter (LACO No. 1265),* prepared for the County of Los Angeles June 2, 2008.

Existing Condition

• Steel roof is weathered and in need of re-finishing.	• 232 s.f.
• **Site –** Base concrete in decent condition	• 232 s.f.

Proposed New Upgrades

Exterior

• Remove all rust from steel roof and wrought iron posts, prime and paint.	• **232 sf.**
• **Site-** remove existing exterior pavement and replace with new 4" thick concrete slab Assume new, planting and irrigation with site amenities flatwork.	• **232 sf.**

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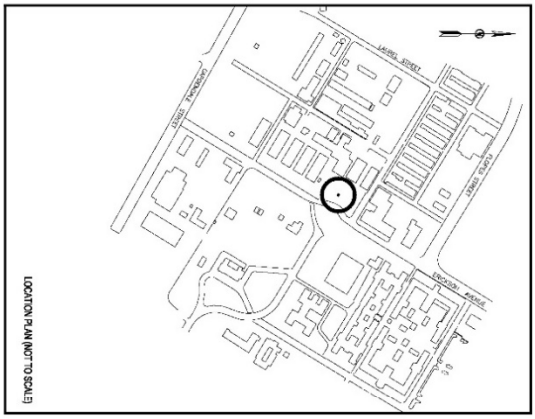
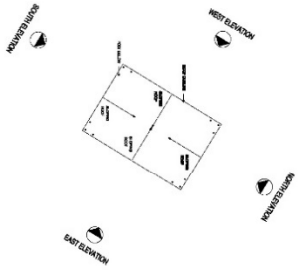
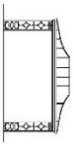
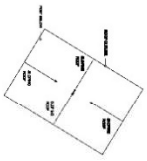


NORTH AND SOUTH ELEVATIONS



EAST AND WEST ELEVATIONS





SOURCE: Mollenhaur Group April 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	Canopy 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-N

Shelter Eave and Roof

B LACO No. 1265 (Shelter) – Structural Assessment Report

Structural Assessment: Shelter
(LACO NO. 1265)

Summary of Assessment

The Shelter (LACO No. 1265) is a small metal canopy. It is located on a lawn next to the Moreton Bay Fig Tree in front of the auditorium. The shelter reportedly covers an area of approximately 232 square feet. This structure is not occupied, but is likely intended to provide shade and protection for temporary occupants. The structure does not appear to have a designated lateral resisting system, but it is not expected to experience high lateral forces due to its light weight. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of the Shelter.

Description of the Building

The Shelter is an open rectangular steel structure. It has four posts (one at each corner) and a roof. It stands on a concrete pad surrounded by lawn. It appears that the posts have been embedded in the concrete slab. The structure can be seen in Figure 1.

Condition Assessment and Evaluation of Structural Performance

This structure is in fair condition. Some rust is evident where paint has chipped, as shown in Figure 2. There does not appear to be any deterioration that has affected the structural integrity of the shelter. The structure's only gravity loads are from its self weight. A retrofit to improve the gravity system does not appear to be necessary. The structure may be exposed to lateral loads from wind or seismic events. The loads would be low due to the light weight of the structure and its extremely open layout. Nonetheless, the shelter does not appear to have a designated lateral force resisting system. The current design may not be able to properly resist future lateral loads, so upgrades are recommended.

Summary of Proposed Upgrades

The following measures are recommended for this structure:

Lateral System:

- Strengthen the connection of the posts to the foundation.
- Strengthen the foundation to resist overturning loads by creating a deeper, fully-reinforced concrete pad or adding individual reinforced concrete footings beneath each post.

General Condition

- Strengthen the connection of the roof to the posts, if needed.
- Re-paint the structure to prevent further rust and deterioration.

Figure 1: LACO No. 1265

Figure 2: Rust and deterioration

C LACO No. 1265 (Shelter) – Preservation/Adaptive Reuse Cost Plan

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Feasibility Study Cost Plan

Shelter (LACO 1265)

(incl in Sitework)

MGAC

Feasibility Study Cost Plan — Shelter (LACO 1265)

			SF	$/SF	TOTAL $ x 1,000
B1			-	0.00	0
SUB-TOTAL BUILDING CONSTRUCTION			-	-	0
S1	Shelter (LACO 1265)		232	73.28	17
	Premium for enhanced sustainable site features				0
SUB-TOTAL SITEWORK					17
TOTAL BUILDING AND SITEWORK					**17**
Escalation to Midpoint (Jul 2021)		11.7%			2
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			2
	Project Management Consultant Services	3.0%			1
	FF & E	5.8%			1
	Taxes and Indirect Fees	1.0%			-
	Building Permit and Other Agency Fees	1.5%			-
	Owner Contingency/Construction Contingency	25.0%			6
Recommended Budget					***29***

MGAC

Feasibility Study Cost Plan — Shelter (LACO 1265)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Shelter (LACO 1265)				
Gross Site Area	232	SF		
Building footprint		SF		
Net Site Area	232	SF		
General site clearing, demo and remove paving/landscaping	1	LS	500.00	500
Shade structure, provide new roofing, remove rust and repaint	232	SF	30.00	6,960
Site paving, site structures, fencing, landscaping & irrigation	1	LS	3,000.00	3,000
Site lighting and drainage	1	LS	3,000.00	3,000
Site utilities				*n/a*
Alternate Cost Before Markups				**13,460**
Z10 Design Contingency	10.00%			1,346
Z11 General Requirements	4.00%			592
Z21 General Conditions	6.00%			924
Z22 Bonds & Insurance	1.50%			245
Z23 Contractor's Overhead, Profit & Fee	3.75%			621
				17,188

D LACO No. 1265 (Shelter) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Shelter #1265

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Shelter (LACO #1265) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Shelter #1265 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes. However,

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Shelter (LACO #1265), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, be for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular budding standards or alternative standards under the 2013

	be braced or reinforced.	California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	Unknown by observation
M-2	Do the gutters retain their proper pitch and are they clean?	There are no gutters
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	There are no doors or windows
M-6	Are walls in good condition to seal out moisture?	There are no doors or windows.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*

PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, though in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero. SMS Architects did not observe nests and any other small mammals, birds, bees, or insects at the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	There is no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	Building structure is composed of metal, so there is no loss of the integrity of original materials.
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present and to make recommendations for abatement and to abate.

HOUSEKEEPING		
H-1	Is the interior broom-clean?	No. *After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.*
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	N/A
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the*

		building • *Incident reports of break-ins, vandalism, fire alarms, security alarms, accidents*
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department*

		Install manual fire extinguishers attached to the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	*N/A*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	N/A
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the structure *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for smoke and fire detectors. *No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*

VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	N/A
V-2	Have interior doors been left open for ventilation purposes?	N/A *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors.

		• exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

E LACO No. 1265 (Shelter) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Shelter (LACO 1265)

MGAC

Mothballing Cost Plan — Shelter (LACO 1265)

			SF	$/SF	TOTAL $ x 1,000
B1	Shelter (LACO 1265)		-		5
TOTAL BUILDING CONSTRUCTION			-		5
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**5**
Escalation to Midpoint (Jul 2021)		11.7%			1
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			-
	Project Management Consultant Services	2.0%			*incl*
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			*incl*
	Building Permit and Other Agency Fees	1.5%			*incl*
	Owner Contingency/Construction Contingency	10.0%			1
Recommended Budget					***7***

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Mothballing Cost Plan — Shelter (LACO 1265)

Item Description	Quantity	Unit	Rate	Total
1.) Shelter (LACO 1265)				
No of floors				
Gross Floor Area				
Gross Wall Area				
Roof Area	***232***	***SF***		
Windows Area				
Gross Site Area	***232***	***SF***		
Building footprint				
Net Site Area	***232***	***SF***		
Stabilized structure				
Repaint exterior walls				
Protect existing openings (exterior doors)				
Install hard protection/boarding to windows				
Seal all openings to eliminate small animals and pests from entering and nesting in the building				
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	232	SF	15.00	3,480
Termites, ants, rodents etc - inspection and treatment				
Install smoke & fire detectors including wiring				*n/a*
Provide battery power supply for fire alarm system				*n/a*
Provide alarm audible locally and wireless signal transmitter to central station				*n/a*
Shut off valves/capped utilities				*n/a*
Fire extinguishers	1	LS	300.00	300
Remove debris and broom clean				
Clear site of weeds and overgrown trees				
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**3,780**
Z10 Design Contingency	15.00%			567
Z11 General Requirements	3.00%			130
Z21 General Conditions	3.00%			134
Z22 Bonds & Insurance	1.50%			69
Z23 Contractor's Overhead, Profit & Fee	3.75%			176
				4,856

Feasibility Study Reports for LACO No. 1276 (Lock Shop)

Secondary Contributor

ESA

A LACO No. 1276 (Lock Shop) – Architectural Assessment Report

Lock Shop (LACO 1276)

Built 1913
750 s.f.
Secondary contributor to the Historic District

Building Description

The Lock shop (LACO No. 1276) is located directly southwest of the intersection of Descanso Street and Juniper Street. The Lock Shop is a one-story, symmetrical in appearance, and rectangular in plan. The brick vernacular building is capped by a flat roof screened by a brick parapet with raised coping. The building sits on a concrete foundation and its exterior walls are brick laid in common bond. A stucco-clad addition was made to the west (rear) elevation of the original building. All windows have been boarded over except for those on the façade which consist of three-light fixed sash. The windows have slightly projecting window sills of header bricks and heavy, flush, concrete lintels. The primary entrance is located centrally in the façade and is topped by a transom window. Both the door and window have been boarded over. Secondary entrances are found on the western section on the south and north elevations and they consist of wood doors; the door on the north elevation is glazed and has been boarded over. Character-defining features include: flat roof screened by brick parapet with raised coping; brick exterior walls in common bond pattern; corbelled brick cornice which separates parapet from wall plate; and slightly projecting window sills of header bricks.[1]

Statement of Significance

The significance of LACO No. 1276 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

The Lock Shop (LACO No. 1276) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1913 as a gas station. Underground gas tanks were located to the north of the building. The rear room served as paint and fuel oil storage. The rear room was also used to store pipe fittings, and eventually was converted into a lock shop. In later years, the lock shop was replaced by master mechanic offices. The building is currently abandoned. The building's exterior appearance still reflects its period of construction. As an example of a simple utilitarian building, it retains integrity of location, feeling, association, design, materials and workmanship. The building has retained most of its character-defining features: flat roof screened by brick parapet with raised coping; brick exterior walls in common bond pattern; corbelled brick cornice which

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Lock Shop (LACO No. 1276),* prepared for the County of Los Angeles June 2, 2008.

separates the parapet from the wall plate; and slightly projecting window sills of header bricks. Its setting has been altered through deterioration of the surrounding landscape.[2]

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt rolled sheets. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **750 s.f.**
• **Exterior walls –** Exterior masonry walls are damaged in minimal amount of areas. It is repairable in most areas.	• **3,700 s.f.**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door is missing.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **4' 3'x 3' steel framed windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Bonita Hall (LACO No. 1264),* prepared for the County of Los Angeles June 2, 2008.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage of the flooring was observed as well as visible standing water on flooring materials.	• **750 s.f.**
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area.	• **3,500 s.f.**
• **Ceiling** – Ceiling was damaged because of water intrusion.	• **750 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

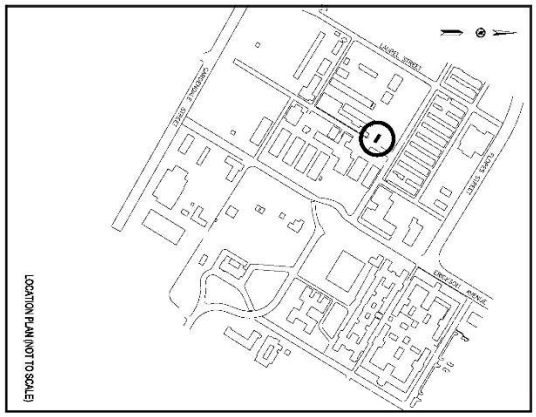
Character Defining features	
• **Roofing –** Replace entire composition shingle roof, waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **750 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **3,500 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **3- 3’ steel doors and frames**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide laminate glazing. Where repair is not possible replace in kind.	• **4 3’x3’ wood window replaces in kind**
Non character defining feature	

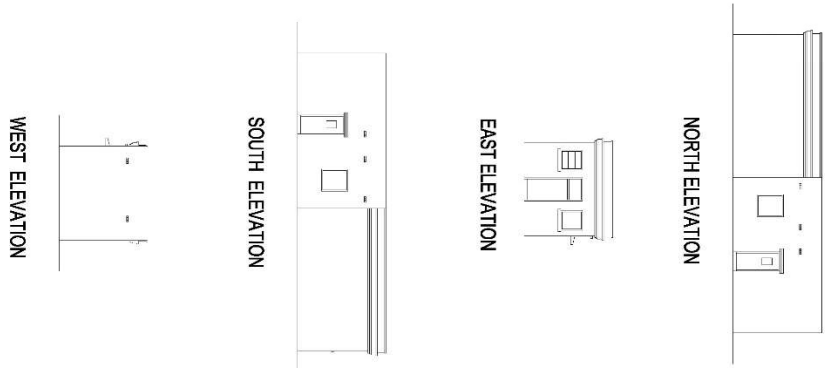
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities at the entry.	• **1,000 s.f .hardscape and amenities.**

Interior Spaces

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal. It is intended that the space would be retrofitted as a structure conforming to current design and code standards.

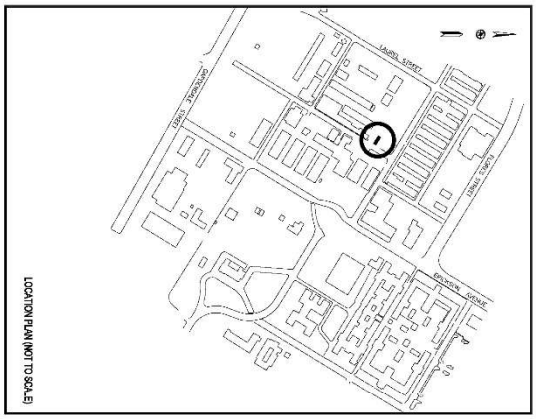
• **Flooring** – Remove and replace concrete floor in restrooms 800 s.f.	• **750 s.f.**
• **Walls –** Remove paint from exterior masonry walls and repair all damaged plaster in-kind per Secretary of the Interior's Standards.	• **3,500 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2 for assembly use.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **750 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **30 l.f.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 5-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **Sink only**
• **Electrical** – Provide new 100 Amp system.	
• **Title 24/ADA requirements –** Main entry only.	

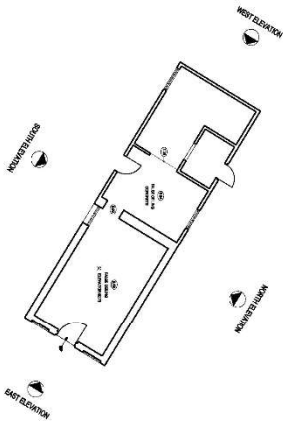


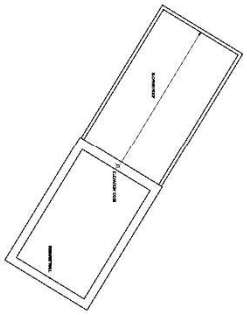


SOURCE: Mollenhaur Group April 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	Lock Shop 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-U







SOURCE: Mollenhaur Group April 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	Lock Shop 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-U

North East Elevation

North West Elevation

1. Remove all site debris, provide new hardscape and landscape.
2. Repair existing masonry and grout.
3. Remove awning.
4. Remove plywood, repair existing windows.

B LACO No. 1276 (Lock Shop) – Structural Assessment Report

Structural Assessment: Lock Shop
(LACO NO. 1276)

Summary of Assessment

The Lock Shop (LACO No. 1276) is a small rectangular building constructed in 1913. It measures approximately 45 feet x 14 feet with a reported total square area of approximately 625 square feet. The building consists of two portions: the brick masonry east portion, which is assumed to be the original building, and the wood framed west portion, which is assumed to be an addition, though the year of construction is unknown. The entire building has a wood roof. According to a report by the Historic American Buildings Survey, the building was originally constructed as a gas station and later converted to a lock shop. Other sources mention that the building was used as a morgue at one point.

The building appears to be in fair to poor condition. It does not have significant lateral force resisting capacity, and the structural components are not properly connected to resist a moderate earthquake. The expected seismic performance of this building in its current condition is poor. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Lock Shop is a rectangular building that appears to have been constructed in two parts (Figure 1 and Figure 2). The original portion on the east side, is an unreinforced brick masonry building with a wood framed roof. The roof framing, shown in Figure 3, consists of straight board sheathing on 2x joists, spaced approximately 16 inches on center and embedded in the masonry walls. Diagonal bracing was observed, orthogonal to the purlins. The west side appears to be a later addition made of wood construction. The framing at the walls and roof of the west portion was not exposed, but the walls are assumed to have wood studs with a wood lath and plaster finish, and the roof framing is likely similar to that of the east portion. The building is thought to be built on a slab on grade foundation with little or no reinforcement, but no information was available to confirm the foundation design. The extent of connection of the walls to the foundation is unclear and is likely inadequate by current standards.

Condition Assessment

The Lock Shop is in fair to poor condition. The wood roof framing appears to be intact, but shows signs of deterioration, likely from water damage or prolonged exposure to moisture. The masonry is deteriorated on the building exterior. Figure 2 shows broken bricks at the corner of the building and eroded mortar between bricks at the bottom of the south wall. Similar conditions were seen at the north wall. Openings on the east end of the building create narrow, weak piers and eliminate necessary shear wall area, but the rest of the building walls have few openings and plenty of space for shear walls. However, unreinforced brick masonry does not provide sufficient shear strength, even at a long solid wall. It is unclear if there is sufficient attachment of the roof to support the masonry walls laterally. It appears that the only attachment is the joists' embedment in the masonry wall (Figure 3), which is likely not sufficient. Typically, anchors are needed between the roof and walls to provide full lateral support.

Cracking was observed where the two portions of the building meet on both the north and south sides (Figure 4). The diagonal crack is likely a shear crack from a previous earthquake. The vertical crack at the building joint may have formed due to settlement or shrinkage of the exterior finish materials. However, it is likely that the addition and the original structure were not properly tied together when the addition was built. With neither a proper seismic connection nor a seismic gap, pounding may occur as the two structures move independently during a moderate earthquake. This is associated with a potential risk of falling hazards, damage, and partial collapse. Bricks and other building materials may fall. Furthermore, the inability for the structures to move independently could lead to damaged connections, compromising the gravity support system and the safety of inhabitants.

The County of Los Angeles has expressed a potential need to demolish this structure due to contaminated soil beneath the building. If soil remediation is indeed required, it may be possible for the building to remain in place during remediation. This would require significant foundation upgrades and underpinning, as well as soil compaction and/or slurry after the excavation is complete.

When this building was observed in 2006 for a previous report by Coffman Engineers, a damaged lintel was observed at the doorway where the original building meets the new portion (Figure 5)[1]. This lintel support should be repaired or replaced.

Evaluation of Structural Performance

Unreinforced brick masonry structures tend to perform very poorly during moderate earthquakes due to their heavy construction (earthquake forces are proportional to building weight) and lack of reinforcement. This building's small size, limited window openings, and light roof are positive factors, but its earthquake performance is still expected to be poor. The age of this building and its lack of significant lateral design are associated with a risk of partial or total collapse in the event of a moderate earthquake. The walls present a significant potential falling hazard. The unreinforced brick masonry walls should be strengthened to help mitigate these potential falling hazards and safety risks, and to provide proper lateral resistance for the structure.

The type of roof system used on this building is capable of resisting lateral forces, but the strength of this particular roof may not be sufficient. Further analysis would need to be done to determine the required strength of the diaphragms. It is likely that the straight board sheathing would need to be replaced or supplemented with a plywood diaphragm. As mentioned above, the connection of the roof to the walls may not be sufficient and would need to be strengthened by adding wall anchors, ties, and collectors. If there is an intent to add equipment or other weight to the roof, the roof supports should be further investigated to determine what additional dead and live loads are allowable for the existing structure. If significant interiors will be added inside the building, the entire lateral system should be evaluated for its ability to support this additional weight. Strengthening or additional supports may be required. Little is known about the foundation for this building, but many buildings at the site do not have sufficient foundations. New footings or strengthening of the existing foundation may be required.

Summary of Proposed Upgrades

The expected seismic performance of this building in its current condition is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the brick masonry portion of the building. Strengthening will likely be required on every wall, on the majority of the wall's surface area. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced brick masonry walls. In order to maintain the appearance of the existing exterior elevations, shotcrete should be applied to the interior face of the walls. With this method, anchors would need to be drilled into the brick masonry to properly connect the existing wall to the shotcrete. 100% of the existing brick masonry walls would require shotcrete or another strengthening method.

[1]*Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

- Add vertical and horizontal steel strongbacks to the brick masonry walls. In order to maintain the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be partially covered by a network of steel tube framing.
- Surface coat the brick masonry walls with fiber reinforced polymer (FRP). In order to maintain the appearance of the existing exterior elevations, FRP should be applied to the interior face of the walls. This option may be more efficient for providing protection of character-defining features and increasing performance and strength compared to the other methods.
- Upgrade or add foundations beneath the shear walls to resist overturning forces.
- Anchor all shear walls to the foundations.

One or a combination of the following measures is suggested to increase the lateral strength of the wood framed portion of the building. Strengthening will likely be required at every wall.

- Install new plywood sheathing or steel shear panels to all exterior walls. It may be necessary to add new interior shear walls across the building. All new shear walls would require new foundations.
- Add holdowns at the end posts of all shear walls. This includes all new walls, and all existing walls where plywood or shear panels were added.
- Add anchor bolts along the length of the shear walls to strengthen the connection of the walls to the foundation.
- Upgrade or add foundations beneath the shear walls to resist overturning forces.

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing sheathing, or the existing sheathing can be removed before new plywood is installed. Damaged sheathing should be replaced.
- Install new steel anchors between walls and diaphragm. Anchors would be installed around the entire perimeter of the building. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Replace deteriorated, damaged, or insufficient wood framing and sheathing members.

General Condition

- Repair and/or replace all deteriorated masonry. Patch and grout any areas where spalling and cracking has occurred.
- Repair the eroded mortar. It is expected that 10% to 50% of the mortar is significantly deteriorated. However, to achieve a consistent appearance for the building exterior, the entire building may need to be repointed.
- Repair or replace all damaged or deteriorated wood members.
- Tie the two portions of the building together, or create a seismic joint, to prevent the potential damage, safety threats, and falling hazards associated with pounding.
- Where the existing foundation is found to be insufficient, additional reinforcing or concrete footings may be required. This process may involve shoring and excavating localized areas to install concrete footings.
- If soil remediation is required, foundation upgrades and underpinning of the structure would be necessary, as would soil compaction and/or slurry fill after the remediation is complete.
- Repair the wood lintel support. Suggested repair approaches would be either to replace the lintel and rebuild the masonry or to grout the existing lintel. Further analysis may be required.

Figure 1: Northwest elevation

Figure 2: Southeast elevation showing broken masonry, deteriorated mortar, and wall openings

Figure 3: Typical roof framing, showing deterioration of sheathing

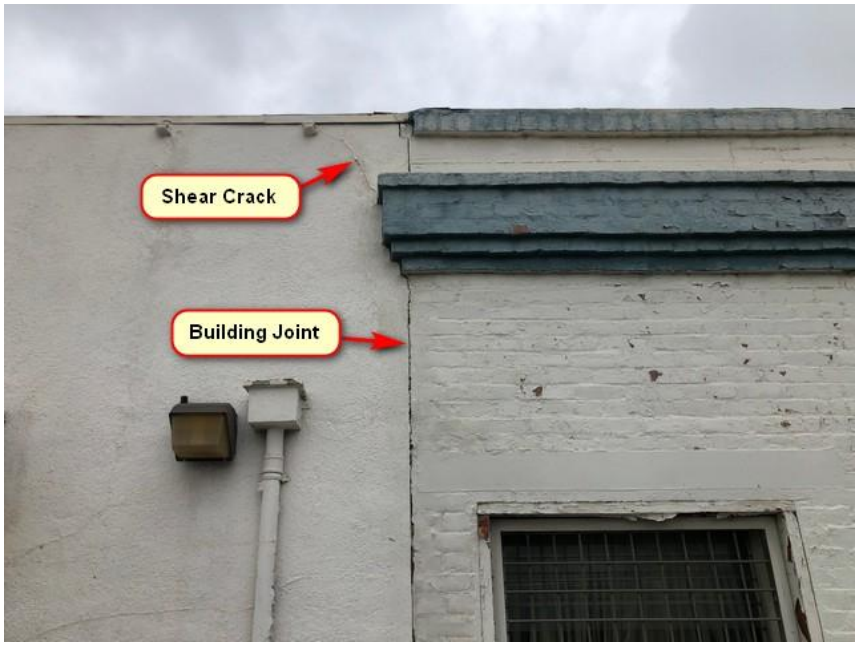


Figure 4: Cracking at south wall

Figure 5: Lintel connection to be strengthened

C LACO No. 1276 (Lock Shop) – Preservation/Adaptive Reuse Cost Plan

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Feasibility Study Cost Plan

Lock Shop (LACO 1276)

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Feasibility Study Cost Plan — Lock Shop (LACO 1276)

			SF	$/SF	TOTAL $ x 1,000
B1	Lock Shop (LACO 1276)		750	706.67	530
SUB-TOTAL BUILDING CONSTRUCTION			750	706.67	530
S1	Sitework		1,000	85.00	85
	Premium for enhanced sustainable site features				9
SUB-TOTAL SITEWORK					94
TOTAL BUILDING AND SITEWORK					**624**
Escalation to Midpoint (Jul 2021)		11.7%			73
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			56
	Project Management Consultant Services	3.0%			23
	FF & E	5.8%			45
	Taxes and Indirect Fees	1.0%			8
	Building Permit and Other Agency Fees	1.5%			12
	Owner Contingency/Construction Contingency	25.0%			210
Recommended Budget					***1,051***

Feasibility Study Cost Plan — Lock Shop (LACO 1276) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	750		
TOTAL GROSS FLOOR AREA	**750**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.001
Gross Area		750	SF	1.000
Enclosed Area		750	SF	1.000
Covered Area		0	SF	-
Footprint Area		750	SF	1.000
Gross Wall Area		1,100	SF	1.467
Finished Wall Area		1,100	SF	1.467
Windows or Glazing	3%	36	SF	0.048
Roof Area - Flat		750	SF	1.000
Roof Area - Total		750	SF	1.000
Roof Glazing Area		0	SF	-
Interior Partitions		14	LF	0.019
Finished Area		750	SF	1.000

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Feasibility Study Cost Plan — Lock Shop (LACO 1276) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	750 SF	
A10	Foundations		17%	116.67	88
A20	Basement Construction		0%	0.00	0
A	Substructure		17%	116.67	88
B10	Superstructure		6%	39.33	30
B20	Exterior Enclosure		7%	52.91	40
B30	Roofing		4%	31.17	23
B	Shell		17%	123.41	93
C10	Interior Construction		2%	12.00	9
C20	Stairways		0%	0.00	0
C30	Interior Finishes		7%	51.67	39
C	Interiors		9%	63.67	48
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		2%	17.50	13
D30	Heating, Ventilation & Air Cond.		7%	46.00	35
D40	Fire Protection		1%	7.00	5
D50	Elect'l Lighting, Power & Comm.		12%	82.67	62
D	Services		22%	153.17	115
E10	Equipment		0%	0.00	0
E20	Furnishings		5%	36.72	28
E	Equipment & Furnishings		5%	36.72	28
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		8%	60.01	45
F	Special Construction & Demolition		8%	60.01	45
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	553.64	415
Z10	Design Contingency	10.00%	8%	55.36	42
Z11	General Requirements	4.00%	3%	24.36	18
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	633.36	475
Z21	General Conditions	6.00%	5%	38.00	29
Z22	Bonds & Insurance	1.50%	1%	10.07	8
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	25.55	19
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	706.99	530
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	706.67	530

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Feasibility Study Cost Plan — Lock Shop (LACO 1276)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				75,500
Excavation				
Excavation	110	CY	100.00	11,000
Fill				
Imported fill	110	CY	75.00	8,250
Disposal				
Disposal			*see Hazmat Abatement*	
Foundation				
Foundation upgrade including underpinning	750	SF	75.00	56,250
A1030 Slab On Grade				12,000
New slab on grade	300	SF	40.00	12,000
Remove/replace ramp including railings				*site*
				87,500
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				22,000
Allow shotcrete interior face of exterior walls, allow 50%	550	SF	40.00	22,000
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				7,500
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	750	SF	10.00	7,500
				29,500

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				28,463
Wood framed exterior wall				
Strengthening of existing exterior walls; add shear panels to interior and exterior	550	SF	7.00	3,850
Weather barrier at exterior walls	550	SF	2.00	1,100
Plaster and repaint throughout exterior walls	550	SF	14.00	7,700
Loose fill insulation	550	SF	3.50	1,925
Plaster and repaint throughout interior face of exterior walls	550	SF	13.00	7,150
Masonry exterior wall				
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	550	SF	8.00	4,400
Painting to exterior walls	550	SF	3.00	1,650
Painting to interior face of exterior walls (shotcrete area)	550	SF	1.25	688
B2020 Exterior Windows				4,320
Strip and retrofit existing windows, replace hardware, install new glazing				n/a
New windows similar kind, high performance glazing	36	SF	120.00	4,320
B2030 Exterior Doors				6,900
Solid core wood doors including frames and hardware				
Single leaf	3	EA	2,300.00	6,900
				39,683
B30 Roofing				
B3010 Roof Coverings				23,375
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	750	SF	24.50	18,375
Repair/repaint existing canopy roofing	1	LS	5,000.00	5,000
				23,375

	Quantity	Unit	Rate	Total
C10 Interior Construction				
C1010 Partitions				6,000
Patch/repair existing partitions, 20%	200	SF	30.00	6,000
Glazed partitions				n/a
C1020 Interior Doors				
New wood doors including frames and hardware				n/a
C1030 Fittings				3,000
Prefabricated toilet compartment and accessories				n/a
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	750	SF	4.00	3,000
				9,000
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				3,000
Repair damaged wall plaster and repaint - interior partitions	300	SF	10.00	3,000
C3020 Floor Finishes				7,500
New floor finishes including base	750	SF	10.00	7,500
Existing flooring to remain, allow for cleaning				n/a
C3030 Ceiling Finishes				28,250
New gypsum plaster ceiling on wood lathe	750	SF	35.00	26,250
Allowance for lightcoves and bulkheads	1	LS	2,000.00	2,000
				38,750

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Feasibility Study Cost Plan — Lock Shop (LACO 1276)

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
				0
D20 Plumbing Systems				
Plumbing Systems	750	SF	17.50	13,125
				13,125
D30 Heating, Ventilation & Air Cond.				
Heating, Ventilation and Air- conditioning	750	SF	46.00	34,500
				34,500
D40 Fire Protection				
Fire Protection System	750	SF	7.00	5,250
				5,250
D50 Elect'l Lighting, Power & Comm.				
Electrical, Lighting, Power and Communication	750	SF	76.00	57,000
Photovoltaic panels	1	KW	5,000.00	5,000
				62,000

	Quantity	Unit	Rate	Total
E10 Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				27,540
Cabinets, countertops shelving and millwork	30	LF	900.00	27,000
Lavatory countertop				*n/a*
Window treatment, mechoshade, manual	36	SF	15.00	540
Entrance mat				*n/a*
				27,540
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				6,380
Selective demolition				
Entire salb on grade	300	SF	10.00	3,000
Exterior window	36	SF	5.00	180
Doors	3	EA	150.00	450
Roofing including roof sheathing	750	SF	1.00	750
Demo masonry partitions, interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	1	LS	2,000.00	2,000
Allow for clearing/removal of storage debris				n/a

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Feasibility Study Cost Plan — Lock Shop (LACO 1276)

	Quantity	Unit	Rate	Total
F2020 Hazardous Components Abatement				38,625
Hazmat abatement - allowance	750	SF	7.50	5,625
Contaminated soil disposal	110	CY	300.00	33,000
				45,005

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Feasibility Study Cost Plan — Lock Shop (LACO 1276)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Lock Shop (LACO 1276)				
Gross Site Area	1,800	SF		
Building footprint	750	SF		
Net Site Area	1,000	SF		
General site clearing, demo and remove paving/landscaping	1,000	SF	4.00	4,000
Site paving, site structures, fencing, landscaping & irrigation	1,000	SF	25.00	25,000
Premium for permeable paving	500	SF	13.00	6,500
Site lighting and drainage	1,000	SF	6.00	6,000
Site utilities	1,000	SF	25.00	25,000
Alternate Cost Before Markups				**66,500**
Z10 Design Contingency	10.00%			6,650
Z11 General Requirements	4.00%			2,926
Z21 General Conditions	6.00%			4,565
Z22 Bonds & Insurance	1.50%			1,210
Z23 Contractor's Overhead, Profit & Fee	3.75%			3,069
				84,920

D LACO No. 1276 (Lock Shop) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Lock shop #1276

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Lock Shop (LACO #1276) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Lock Shop #1276 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes. However,

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Lock Shop (LACO #1276), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is the building's stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular building standards or alternative standards

		under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is severely deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project, light gauge prefinished aluminum components are an acceptable alternative to a more durable construction system. Provide rain leader*

		extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior masonry has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly, the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, although in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects to the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals of small animals and pests prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present, to make recommendations for abatement, and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

		After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and other documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins,*

		vandalism, fire alarms, security alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally and shall report a signal to a central station that automatically notifies the fire department.* *Install manual fire extinguishers attached to the exterior of the building at each personnel*

		door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines?	Yes. County staff stated that all utility services are shut off outside the buildings. Electrical will have to be re-activated for

		smoke and fire detectors. *No action required.*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage

		• pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS

Lock shop #1276

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Northwest corner.	
2	North elevation	

E LACO No. 1276 (Lock Shop) – Mothballing Cost Plan

MGAC

Lock Shop (LACO 1276)

MGAC

Mothballing Cost Plan — Lock Shop (LACO 1276)

			SF	$/SF	TOTAL $ x 1,000
B1	Lock Shop (LACO 1276)		750	53.33	40
TOTAL BUILDING CONSTRUCTION			750	53.33	40
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**40**
Escalation to Midpoint (Jul 2021)		11.7%			5
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			2
	Project Management Consultant Services	2.0%			1
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			1
	Building Permit and Other Agency Fees	1.5%			1
	Owner Contingency/Construction Contingency	10.0%			5
Recommended Budget					***55***

MGAC

Mothballing Cost Plan — Lock Shop (LACO 1276)

Item Description	Quantity	Unit	Rate	Total
1.) Lock Shop (LACO 1276)				
No of floors	***1***	***EA***		
Gross Floor Area	***750***	***SF***		
Gross Wall Area	***1,100***	***SF***		
Roof Area	***750***	***SF***		
Windows Area	***36***	***SF***		
Gross Site Area	***1,800***	***SF***		
Building footprint	***750***	***SF***		
Net Site Area	***1,000***	***SF***		
Stabilized structure	750	SF	1.50	1,125
Repaint exterior walls	1,100	SF	2.00	2,200
Protect existing openings (exterior doors)	3	EA	800.00	2,400
Install hard protection/boarding to windows	36	SF	25.00	900
Seal all openings to eliminate small animals and pests from entering and nesting in the building	1,100	SF	0.10	110
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	750	SF	15.00	11,250
Termites, ants, rodents etc - inspection and allowance for treatment	750	SF	1.50	1,125
Install smoke & fire detectors including wiring	750	SF	2.00	1,500
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	1	EA	275.00	275
Remove debris and broom clean	750	SF	0.75	563
Clear site of weeds and overgrown trees	1,000	SF	0.50	500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**31,448**
Z10 Design Contingency	15.00%			4,717
Z11 General Requirements	3.00%			1,085
Z21 General Conditions	3.00%			1,117
Z22 Bonds & Insurance	1.50%			576
Z23 Contractor's Overhead, Profit & Fee	3.75%			1,460
				40,403

Feasibility Study Reports for LACO No. 1283 (Trunk Storage)

Secondary Contributor

ESA

A LACO No. 1283 (Trunk Storage) – Architectural Assessment Report

Trunk Storage (LACO 1283)

7,736 s.f.
Built 1923
Secondary Contributor to the historic district

Building Description

The Trunk Storage building (LACO No. 1283) is located on the east side of Erikson Avenue, opposite General Ward 70. The building is one-story, asymmetrical in appearance, with an L-shaped plan. The brick vernacular building is capped by a flat roof with a parapet that is flush with the exterior walls. The building sits on a concrete slab foundation and its exterior walls are brick laid in common bond and painted. The northern two-thirds of the façade (west) consists of five bays and double windows in the end bays. Five rows of header bricks outline the arch. Deeply recessed within a vestibule behind the arch, the primary entry is a wide, wood door with glazing. Other entrances, which contain metal roll-up doors set within segmental arched openings, are located on the south and east elevations. Fenestration on all elevations consists primarily of a linear arrangement of multi-light, flat-headed windows (six-over-six and four-over-four) located within segmental arched window openings. A flat-roofed metal canopy projects from the south elevation.[1]

Statement of Significance

The significance of LACO No. 1283 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> The Trunk Storage building (LACO No. 1283) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. Originally two stories in height, the building was erected in 1923 as a horse stable and hay barn. After an outbreak of hoof and mouth disease in 1924 decimated the livestock at the County Farm, the building was re-purposed for storage of patient belongings (or trunks) on the first floor and a male patient ward on the second floor. After the 1933 Long Beach earthquake extensively damaged the upper story, it was removed. Other uses of the building included a barber shop, and a room for scale house records located off the main entrance. In 1984, the building was converted to offices for medical equipment repairs and some workshop space. The building was abandoned by the end of the 20th century. Although the building has been somewhat altered, its exterior appearance today still reflects its appearance after 1933 and still conveys its original function as a horse barn. The building retains integrity of location, design, materials, workmanship, feeling,

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Trunk Storage (LACO No. 1283),* prepared for the County of Los Angeles June 2, 2008.

and association. Extant character-defining features include: brick exterior walls laid in common bond; segmental arched window and door openings; use of multiple rows of header bricks to define arched openings; slightly projecting window sills of header bricks; broad arched entries clearly intended to accommodate horses; fenestration pattern that suggests former stable divisions; and original windows. Its setting has been altered through the deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt shingles. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **7,736 s.f**
• **Exterior walls –** Exterior brick masonry walls have been painted and infilled of exterior plaster is damaged in minimal amount of areas. It is repairable in most areas.	

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Trunk Storage (LACO No. 1283),* prepared for the County of Los Angeles June 2, 2008.

• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **3 roll up doors** • **one pr. 3'x7' entry door**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **21- 2'x3' wood windows** • **11-3'x 6' windows**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **7,706 s.f.**
• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area. Original covered screen porch has been enclosed; however, some walls are vandalized and damaged.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **7,706 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were	

observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

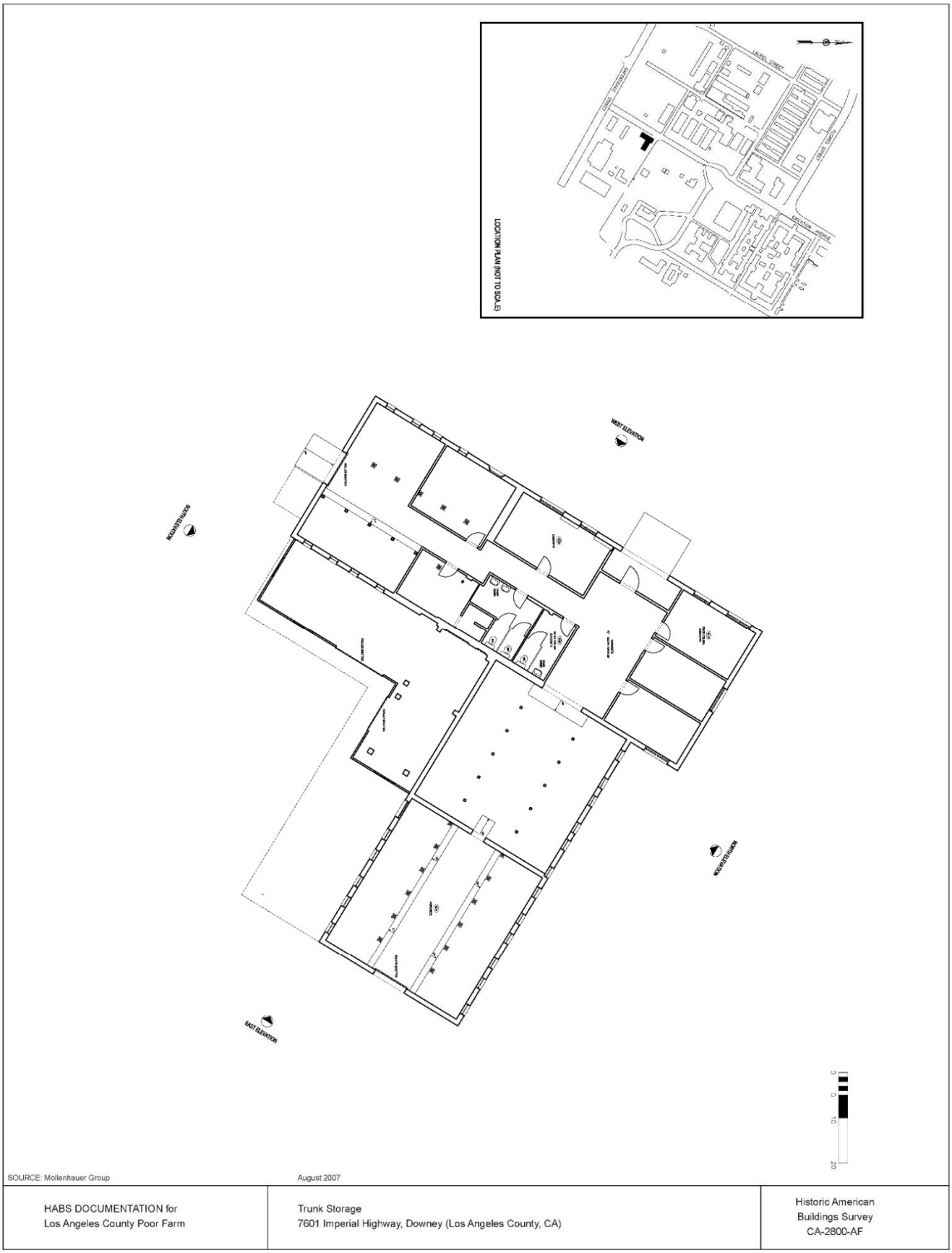
Character Defining features	
• **Roofing –** Replace entire built up roof, plywood and waterproof membrane. Replace existing plywood substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **7,706 s.f.**
• **Exterior walls** – Remove all paint from brick masonry and repaint grout.	
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **3 exterior rolls up doors one pair 3'x7' entry doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **21- 2'x3' wood windows** • **11- 3' x 6 wood windows.**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities in the courtyard adjacent to building. Perimeter exterior landscaping to be landscape and irrigation.	

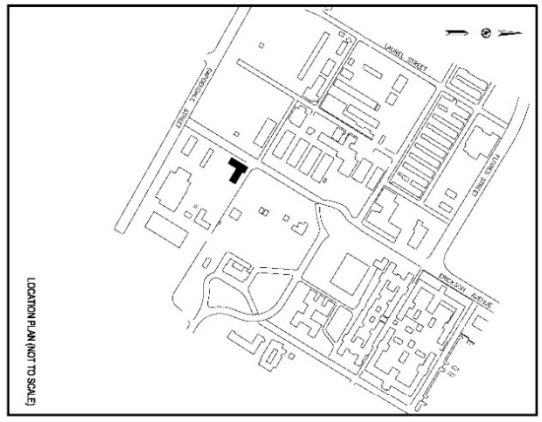
Interior Spaces

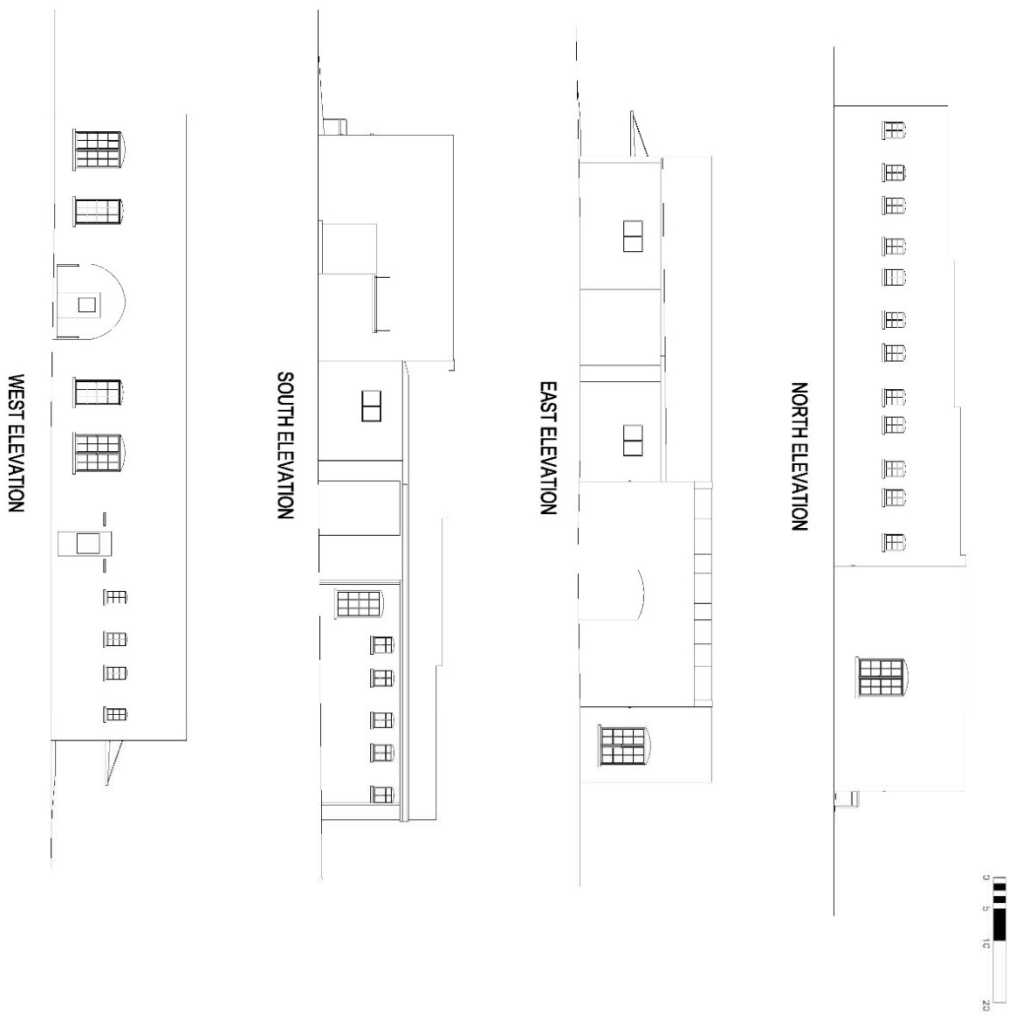
It is assumed that this 7,736 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 100% of the existing layout will be demolished and the rest of the area

converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Clean and repair concrete flooring.	• **7,706 s.f.**
• **Walls –** Remove paint from masonry, repair in-kind per Secretary of the Interior's Standards.	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **7,706 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **20 l.f.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 15-ton high-efficiency HVAC system ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **4 fixtures- 2 sinks.** • **Men's and women's room**
• **Electrical** – Provide new 400 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Existing path of travel at entrances appear to be in conformance with minimal change.	


LOCATION PLAN (NOT TO SCALE)
LAUREL STREET
LOCUST AVENUE
WEST ELEVATION
SOUTH ELEVATION
NORTH ELEVATION
EAST ELEVATION
0
5
10
20
SOURCE: Mollenhauer Group
August 2007
HABS DOCUMENTATION for
Los Angeles County Poor Farm
Trunk Storage
7601 Imperial Highway, Downey (Los Angeles County, CA)
Historic American
Buildings Survey
CA-2800-AF





SOURCE: Mollenhauer Group

August 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	Trunk Storage 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-AF

North East Entry View

Non-Contributing Metal Awning

1. Repair existing masonry and grout.
2. Remove plywood, repair or replace windows and hardware.
3. Remove awning assembly and aluminum addition.
4. Remove existing hardscape and debris. Provide new hardscape and landscape.
5. Provide new roll-up door assembly.
6. Paint and repair interior walls.
7. Clean and repair existing concrete floor.

Interior

South elevation with non-contributing addition.

1. Repair existing masonry and grout.
2. Remove plywood, repair or replace windows and hardware.
3. Remove awning assembly and aluminum addition.
4. Remove existing hardscape and debris. Provide new hardscape and landscape.
5. Provide new roll-up door assembly.
6. Paint and repair interior walls.
7. Clean and repair existing concrete floor.

South Interior

1. Repair existing masonry and grout.
2. Remove plywood, repair or replace windows and hardware.
3. Remove awning assembly and aluminum addition.
4. Remove existing hardscape and debris. Provide new hardscape and landscape.
5. Provide new roll-up door assembly.
6. Paint and repair interior walls.
7. Clean and repair existing concrete floor.

B LACO No. 1283 (Trunk Storage) – Structural Assessment Report

Structural Assessment: Stable/Trunk Storage
(LACO NO. 1283)

Summary of Assessment

The Stable/Trunk Storage Building (LACO No. 1283) was constructed in 1923 as a horse stable and hay barn. It was later converted for other uses including storage of patient belongings, a barbershop, and ultimately an office space for medical equipment repairs. The building has a wood roof system supported by unreinforced brick masonry walls. Wood rafters are used to support the straight sheathed roof. Cracking and deterioration of unreinforced brick walls were observed throughout the structure and water damage was apparent at the roof.

The expected seismic performance of this building in its current condition is poor. The building does not have significant lateral force resisting capacity. Additionally, the structural components of the building are not properly connected to resist a moderate earthquake. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be undertaken to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Stable/Trunk Storage Building is an "L" shaped one-story building encompassing approximately 7,736 square feet, as shown in Figure 1. The main structure is constructed of unreinforced brick masonry walls with high ceilings and large openings at two elevations. A small carport addition is attached at the inside of the "L". This addition was not part of the original construction and is expected to be removed. The roof of the building is framed with 2x roof rafters embedded in the masonry walls. The rafters are braced at mid points, as shown in Figure 2. The roof diaphragm is wood straight sheathing. In some rooms, a wood beam supports the rafters at their midspan (*Figure 3*). The beam sits on wood posts spaced 4 feet to 6 feet on center. The interior walls of the building are unreinforced brick masonry typically two wythes thick.

Condition Assessment

The Stable/Trunk Storage Building is in poor condition. The roof framing likely does not provide adequate anchorage for the walls, as the rafter embedment in the walls is the only connection and there are no additional roof-to-wall anchors (Figure 3). The straight sheathed roof appears in decent condition in some areas, but appears to have sustained water damage in certain portions of the building (Figure 2 and Figure 4). This may have compromised the strength of the sheathing and the rafters. Even where the straight board sheathing has not deteriorated, it is likely not sufficient to transfer diaphragm forces across the building. The sheathing would most likely need to be replaced or supplemented with new plywood sheathing to accommodate the diaphragm forces.

Little is known about the foundations for this building, but it is expected that the foundations would need to be strengthened. As seen in Figure 5, the wood posts do not appear to be positively anchored to their concrete piers. Posts and walls should all be positively anchored to the foundations. Depending on the condition and reinforcement of the foundations, the footings may need to be strengthened to fully support both gravity and lateral forces.

Cracking and spalling was observed at both the interior and exterior masonry walls (Figure 6 and Figure 7). At the base of exterior walls, the stucco finish over the concrete stem wall is delaminated and spalled, as shown in Figure 8 and Figure 9. At the south side of the building, and likely throughout the perimeter, the mortar between the bricks is eroding and can be easily scraped away (Figure 9 and Figure 10).

Evaluation of Structural Performance

In general, unreinforced brick masonry structures tend to perform very poorly during moderate earthquakes due to their heavy construction (earthquake forces are proportional to building weight) and lack of reinforcement. Although the structure may have withstood previous regional earthquakes, the walls still present a significant potential falling

hazard and are not likely to perform well in a closer or more severe earthquake. The age of this building and its lack of significant lateral design are associated with a potential risk of partial or total collapse in the event of a moderate earthquake. The unreinforced brick masonry walls should be strengthened to help mitigate these potential falling hazards and safety risks.

The roof type used at this building is capable of resisting lateral forces, but the strength of this specific roof may be insufficient. Further analysis would be needed to determine the required strength of the diaphragm. The connection from the roof to the walls, as well as the ties and collectors, are likely not sufficient to transfer forces across the building. The "L" shape of the building will likely increase the number of collectors required. Also, as mentioned above, the straight sheathing diaphragm is likely not strong enough to transfer the lateral forces and should be replaced by a new plywood diaphragm. Additionally, the roof supports should be further investigated to determine what additional dead and live loads are allowable for the existing structure.

Summary of Proposed Upgrades

The expected seismic performance of this building in its current condition is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. Strengthening will likely be required on every wall, on the majority of the wall's surface area. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Shotcrete existing unreinforced brick masonry walls. In order to maintain the appearance of the existing exterior elevations, shotcrete should be applied to the interior face of the walls. With this method, anchors would need to be drilled into the brick masonry to properly connect the existing wall to the shotcrete. 100% of the existing brick masonry walls will require shotcrete or another strengthening method.
- Add vertical and horizontal steel strongbacks to the walls. In order to maintain the appearance of the existing exterior elevations, strongbacks should be applied to the interior face of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be partially covered by a network of steel tube framing.
- Surface coat the walls with fiber reinforced polymer (FRP). In order to maintain the appearance of the existing exterior elevations, FRP should be applied to the interior face of the walls. This option may be more efficient for providing protection of character-defining features and increasing performance and strength compared to the other methods.
- Anchor all walls to the foundations.

Diaphragm

- Remove and replace existing roofing to install structural plywood sheathing over the entire roof. The plywood may be overlaid on the existing sheathing, or the existing sheathing can be removed before new plywood is installed. Damaged sheathing should be replaced.
- Install new steel anchors between walls and diaphragm. Anchors would be installed around the entire perimeter of the building. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Replace deteriorated, damaged, or insufficient wood framing and sheathing members.

General Condition

- Repair and/or replace all deteriorated brick masonry. Patch and grout any areas where spalling and cracking has occurred.
- Patch and grout any areas where spalling and cracking has occurred in the concrete stem walls.
- Repair the eroded mortar at brick masonry walls. It is expected that approximately 20%-50% of the mortar is significantly deteriorated. To achieve a consistent appearance for the building exterior, the entire building may require to be repointed.
- Repair or replace all damaged or deteriorated wood members.
- Strengthen the foundations and stem walls of the building. This process may involve shoring and excavating localized areas to install concrete footings.

Figure 1: Partial south elevation of Stable/Trunk Storage Building, LACO No.1283

Figure 2: Typical roof framing at walls

Figure 3: Typical roof rafters embedded in masonry wall and supported at midspan.

Figure 4: Water damaged roof sheathing and rafters

Figure 5: Wood post to concrete base

Figure 6: Damaged brick masonry wall

Figure 7: Crack at top of brick masonry wall

Figure 8: Delaminated stucco finish at concrete stem wall

Figure 9: Spalled stucco finish at concrete stem wall; deterioration of mortar between lower bricks

Figure 10: Deterioration of mortar in brick masonry wall

C LACO No. 1283 (Trunk Storage) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Trunk Storage (LACO 1283)

MGAC

Feasibility Study Cost Plan — Trunk Storage (LACO 1283)

			SF	$/SF	TOTAL $ x 1,000
B1	Trunk Storage (LACO 1283)		7,736	473.63	3,664
SUB-TOTAL BUILDING CONSTRUCTION			7,736	473.63	3,664
S1	Sitework		5,000	85.00	425
	Premium for enhanced sustainable site features				61
SUB-TOTAL SITEWORK					486
TOTAL BUILDING AND SITEWORK					**4,150**
Escalation to Midpoint (Jul 2021)		11.7%			484
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			371
	Project Management Consultant Services	3.0%			150
	FF & E	5.8%			299
	Taxes and Indirect Fees	1.0%			55
	Building Permit and Other Agency Fees	1.5%			83
	Owner Contingency/Construction Contingency	25.0%			1,398
Recommended Budget					***6,990***

MGAC

Feasibility Study Cost Plan — Trunk Storage (LACO 1283) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	7,736		
TOTAL GROSS FLOOR AREA	**7,736**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.000
Gross Area		7,736	SF	1.000
Enclosed Area		7,736	SF	1.000
Covered Area		0	SF	-
Footprint Area		7,736	SF	1.000
Gross Wall Area		9,200	SF	1.189
Finished Wall Area		9,200	SF	1.189
Windows or Glazing	4%	330	SF	0.043
Roof Area - Flat		7,736	SF	1.000
Roof Area - Total		7,736	SF	1.000
Roof Glazing Area		0	SF	-
Interior Partitions		347	LF	0.045
Finished Area		7,736	SF	1.000

MGAC

Feasibility Study Cost Plan — Trunk Storage (LACO 1283) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	7,736 SF	
A10	Foundations		4%	17.02	132
A20	Basement Construction		0%	0.00	0
A	Substructure		4%	17.02	132
B10	Superstructure		12%	56.57	438
B20	Exterior Enclosure		5%	23.67	183
B30	Roofing		5%	25.66	199
B	Shell		22%	105.90	819
C10	Interior Construction		3%	12.32	95
C20	Stairways		0%	0.00	0
C30	Interior Finishes		13%	59.29	459
C	Interiors		15%	71.61	554
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		5%	24.84	192
D30	Heating, Ventilation & Air Cond.		10%	46.93	363
D40	Fire Protection		1%	7.00	54
D50	Elect'l Lighting, Power & Comm.		17%	78.98	611
D	Services		33%	157.75	1,220
E10	Equipment		0%	0.00	0
E20	Furnishings		1%	3.97	31
E	Equipment & Furnishings		1%	3.97	31
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	14.64	113
F	Special Construction & Demolition		3%	14.64	113
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	370.90	2,869
Z10	Design Contingency	10.00%	8%	37.09	287
Z11	General Requirements	4.00%	3%	16.32	126
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	424.31	3,282
Z21	General Conditions	6.00%	5%	25.46	197
Z22	Bonds & Insurance	1.50%	1%	6.75	52
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	17.12	132
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	473.64	3,664
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	473.63	3,664

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				38,680
Foundation upgrade	7,736	SF	5.00	38,680
A1030 Slab On Grade				93,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	3,100	SF	30.00	93,000
Remove/replace ramp including railings				*site*
				131,680
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				368,000
Allow shotcrete interior face of exterior walls	9,200	SF	40.00	368,000
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				69,624
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	7,736	SF	9.00	69,624
				437,624
B20 Exterior Enclosure				
B2010 Exterior Walls				112,700
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	9,200	SF	8.00	73,600
Painting to exterior walls	9,200	SF	3.00	27,600

	Quantity	Unit	Rate	Total
Painting to interior face of exterior walls (shotcrete area)	9,200	SF	1.25	11,500
Loose fill insulation				*n/a*
B2020 Exterior Windows				35,000
Strip and retrofit existing wood framed windows, replace hardware, install new high performance glazing	230	SF	100.00	23,000
New windows similar kind, high performance glazing; allow 20%	100	SF	120.00	12,000
B2030 Exterior Doors				35,400
Solid core wood doors including frames and hardware				
Single leaf	1	EA	3,000.00	3,000
Double leaf				n/a
New metal roll-up doors	360	SF	90.00	32,400
				183,100
B30 Roofing				
B3010 Roof Coverings				198,532
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	7,736	SF	24.50	189,532
Repair/repaint existing canopy roofing	120	SF	75.00	9,000
B3020 Roof Openings				
				198,532
C10 Interior Construction				
C1010 Partitions				38,000
Patch/repair existing partitions, 20%	1,000	SF	30.00	30,000
Glazed partitions	100	SF	80.00	8,000
C1020 Interior Doors				18,400
New wood doors including frames and hardware	8	EA	2,300.00	18,400

	Quantity	Unit	Rate	Total
C1030 Fittings				38,944
Prefabricated toilet compartment and accessories	4	EA	2,000.00	8,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screens, lockers, etc	7,736	SF	4.00	30,944
				95,344
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				85,520
Repair damaged wall plaster and repaint - interior partitions	6,900	SF	10.00	69,000
Ceramic wall tiles to toilets	640	SF	18.00	11,520
Enhance wall finishes	1	LS	5,000.00	5,000
C3020 Floor Finishes				77,360
New floor finishes including base	7,736	SF	10.00	77,360
Existing flooring to remain, allow for cleaning				n/a
C3030 Ceiling Finishes				295,760
New gypsum plaster ceiling on wood lathe	7,736	SF	35.00	270,760
Allowance for lightcoves and bulkheads	1	LS	25,000.00	25,000
				458,640
D10 Conveying Systems				
				0

	Quantity	Unit	Rate	Total
D20 Plumbing Systems				
D2010 Plumbing Fixtures				32,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	16	EA	2,000.00	32,000
D2020 Domestic Water Distribution				58,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	16	EA	3,000.00	48,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
D2030 Sanitary Waste				71,208
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	7,736	SF	2.00	15,472
Condensate drainage pipework, fittings, < = 1-1/2", insulated	7,736	SF	1.00	7,736
Waste, vent, fittings, < = 6"	16	EA	3,000.00	48,000
D2040 Rain Water Drainage				23,208
Surface water drainage				
Roof & overflow drains, < = 6"	7,736	SF	3.00	23,208
D2090 Other Plumbing Systems				7,736
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	7,736.00	7,736
				192,152

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				76,930
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	125	mbth	27.50	3,438
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	7,736	SF	1.50	11,604
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	7,736	SF	8.00	61,888
D3040 Distribution Systems				175,752
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	9,670	LB	12.00	116,040
Dampers	1	LS	11,604.00	11,604
Insulation	7,253	SF	4.50	32,636
Diffusers, registers and grilles	7,736	SF	2.00	15,472
D3050 Terminal & Package Units				60,236
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	15	Ton	3,500.00	52,500
VAV boxes, terminal reheat (1/1,000 SF)	8	EA	1,000.00	7,736
D3060 Controls and Instrumentation				34,812
Controls and instrumentation				
Direct digital energy management system (high efficiency) - including natural ventilation	7,736	SF	4.50	34,812
D3070 Systems Testing & Balancing				11,604
Test and balance air systems	7,736	SF	1.50	11,604
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				363,084

	Quantity	Unit	Rate	Total
D40 Fire Protection				
D4010 Sprinklers				54,152
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	7,736	SF	7.00	54,152
				54,152
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				127,451
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	400	AM	65.00	26,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	25	kVA	975.00	24,375
Photovoltaic panels	10	KW	5,000.00	50,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	7,736	SF	3.50	27,076
D5020 Lighting & Branch Wiring				309,440
User convenience power				
Panel board breakers, 120 V circuits	7,736	SF	2.00	15,472
Receptacles, including conduit and cable	7,736	SF	5.50	42,548
Lighting				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	7,736	SF	27.50	212,740

	Quantity	Unit	Rate	Total
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	7,736	SF	5.00	38,680
D5030 Communications & Security				108,304
Telephone and communications				
Telephone/data - including conduit & cable	7,736	SF	6.50	50,284
WAP	7,736	SF	1.00	7,736
DAS - Emergency response & cellular	7,736	SF	4.00	30,944
Cable tray/wire-way/j-hooks	7,736	SF	1.00	7,736
Audiovisual rough-in	7,736	SF	1.50	11,604
D5090 Other Electrical Systems				65,756
Fire alarm systems	7,736	SF	4.50	34,812
Security - perimeter access control & CCTV surveillance	7,736	SF	4.00	30,944
				610,951

E10 Equipment

				0

E20 Furnishings

E2010 Fixed Furnishings				30,750
Cabinets, countertops shelving and millwork	20	LF	1,200.00	24,000
Lavatory countertop	6	LF	300.00	1,800
Window treatment, mechoshade, manual	330	SF	15.00	4,950
Entrance mat				*n/a*
				30,750

F10 Special Construction

				0

	Quantity	Unit	Rate	Total
F20 Selective Demolition				
F2010 Building Elements Demolition				55,270
Selective demolition				
Demo/remove portion of slab on grade	3,100	SF	3.00	9,300
Exterior window	100	SF	5.00	500
Doors	9	EA	150.00	1,350
Roofing including roof sheathing	7,736	SF	1.00	7,736
Demo masonry partitions, interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	7,736	SF	4.00	30,944
Demo /remove exterior carport addition	1,100	SF	4.00	4,400
Allow for clearing/removal of storage debris	16	MH	65.00	1,040
F2020 Hazardous Components Abatement				58,020
Hazmat abatement - allowance	7,736	SF	7.50	58,020
				113,290

Feasibility Study Cost Plan — Trunk Storage (LACO 1283)

	Item Description	Quantity	Unit	Rate	Total
1.)	**Sitework - Trunk Storage (LACO 1283)**				
	Gross Site Area	12,700	SF		
	Building footprint	7,736	SF		
	Net Site Area	5,000	SF		
	General site clearing, demo and remove paving/landscaping	5,000	SF	4.00	20,000
	Site paving, site structures, fencing, landscaping & irrigation	5,000	SF	25.00	125,000
	Premium for permeable paving	2,500	SF	13.00	32,500
	Site lighting and drainage	5,000	SF	6.00	30,000
	Site utilities	5,000	SF	25.00	125,000
	Alternate Cost Before Markups				**332,500**
	Z10 Design Contingency	10.00%			33,250
	Z11 General Requirements	4.00%			14,630
	Z21 General Conditions	6.00%			22,823
	Z22 Bonds & Insurance	1.50%			6,048
	Z23 Contractor's Overhead, Profit & Fee	3.75%			15,347
					424,598

D LACO No. 1283 (Trunk Storage) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Trunk Storage #1283

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Truck Storage (LACO #1283) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Truck Storage #1283 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes. However,

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Truck Storage (LACO #1283), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is the building's stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular building standards or alternative standards

		under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is severely deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project, light gauge prefinished aluminum components are an acceptable alternative to a more durable construction system. Provide rain leader*

		extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior masonry has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly, the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, although in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects to the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals of small animals and pests prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed, as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present, to make recommendations for abatement, and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

		After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and other documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins,*

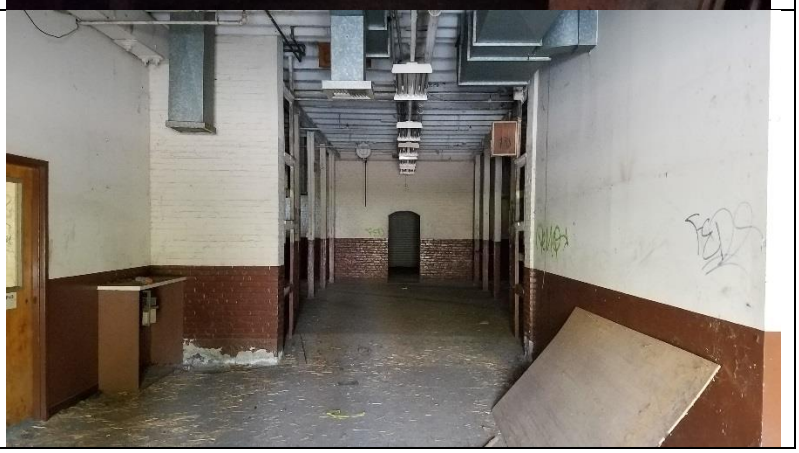
		vandalism, fire alarms, security alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department* *Install manual fire extinguishers attached to*

		the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and	Yes. County staff stated that all utility services are shut off outside the buildings.

	electric lines?	Electrical will have to be re-activated for smoke and fire detectors. *No action required.*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds

		• check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	West Elevation.	
2	South elevation	
3	South elevation with non-contributing addition	

4	Interior elevation	
5	Interior elevation	

E LACO No. 1283 (Trunk Storage) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Trunk Storage (LACO 1283)

MGAC

Mothballing Cost Plan — Trunk Storage (LACO 1283)

			SF	$/SF	TOTAL $ x 1,000
B1	Trunk Storage (LACO 1283)		7,736	30.89	239
TOTAL BUILDING CONSTRUCTION			7,736	30.89	239
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**239**
Escalation to Midpoint (Jul 2021)		11.7%			28
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			11
	Project Management Consultant Services	2.0%			6
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			3
	Building Permit and Other Agency Fees	1.5%			4
	Owner Contingency/Construction Contingency	10.0%			29
Recommended Budget					***320***

MGAC

Mothballing Cost Plan — Trunk Storage (LACO 1283)

Item Description	Quantity	Unit	Rate	Total
1.) Trunk Storage (LACO 1283)				
No of floors	***1***	***EA***		
Gross Floor Area	***7,736***	***SF***		
Gross Wall Area	***9,200***	***SF***		
Roof Area	***7,736***	***SF***		
Windows Area	***330***	***SF***		
Gross Site Area	***12,700***	***SF***		
Building footprint	***7,736***	***SF***		
Net Site Area	***5,000***	***SF***		
Stabilized structure	7,736	SF	1.50	11,604
Repaint exterior walls	9,200	SF	2.00	18,400
Protect existing openings (exterior doors)	3	EA	800.00	2,400
Install hard protection/boarding to windows	330	SF	25.00	8,250
Seal all openings to eliminate small animals and pests from entering and nesting in the building	9,200	SF	0.10	920
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	7,736	SF	15.00	116,040
Termites, ants, rodents etc - inspection and allowance for treatment	7,736	SF	0.25	1,934
Install smoke & fire detectors	7,736	SF	1.00	7,736
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	3	EA	275.00	825
Remove debris and broom clean	7,736	SF	0.75	5,802
Clear site of weeds and overgrown trees	5,000	SF	0.50	2,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**185,911**
Z10 Design Contingency	15.00%			27,887
Z11 General Requirements	3.00%			6,414
Z21 General Conditions	3.00%			6,606
Z22 Bonds & Insurance	1.50%			3,402
Z23 Contractor's Overhead, Profit & Fee	3.75%			8,633
				238,853

Feasibility Study Reports for LACO No. 1295 (Kitchen and Dining Building)

Secondary Contributor

ESA

A LACO No. 1295 (Kitchen and Dining Building) – Architectural Assessment Report

Ward Kitchen and Dining building (LACO 1295)

18,908 s.f.
Secondary Contributor to the Historic District

Building Description

The Kitchen and Dining building (LACO No. 1295) is located on the western section of the block bounded by Flores Street to the north, Hawthorn Avenue to the east, Esparza Street to the south, and Laurel Street to the west. The one-story building has a central roof projection and is asymmetrical in appearance and irregular in plan. Of reinforced concrete construction, the building displays the influence of Classical Revival styling. A flat, steel truss of composition material is shielded from view by concrete parapet walls. A central, one-story projection over the kitchen is surmounted by a flat roof covered in composition panels with a slight slope on its north and south elevations below the ridgeline, and projecting parapets on its east and west elevations.

The building sits on a concrete foundation and the exterior walls are clad in stucco. A raised concrete Tuscan-style cornice wraps the building below the roof parapet and above a concrete plain frieze and architrave. Small rectangular screened vents punctuate the frieze of the building. Concrete stringcourses band the building above the windows. Fenestration on all elevations consists primarily of a linear arrangement of original wood-framed three-over-three double-hung sash windows with transoms and slightly projecting sills. Additional windows include: three-light hopper windows; three-over-three double-hung sash windows without transoms; and large, steel sash three-over-three pivot windows. Non-original metal sliding windows are located on the north elevations. The primary east façade entrance and secondary north elevation entrance are characterized by partial-width porches sheltered by projecting flat concrete hoods suspended by steel cables. Paired glazed and paneled one-over-one wood-aneled doors topped by two, two-light transoms are recessed within the entries. The entrances are accessed by concrete steps with ramps and metal pipe handrails. A loading dock and metal roll-up loading doors are located on the west elevation, and non-original metal sheds on a raised concrete deck are located on the south elevation.[1]

Statement of Significance

The significance of LACO No. 1295 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by Sapphos in 2008, and the findings were subsequently reconfirmed in 2018 by ESA through a re-surveying effort, as follows:

> The Kitchen and Dining Building (LACO No. 1295) is significant for its association with the development of the Los Angeles County Poor Farm, which had a period of significance from 1888 to 1952. The building was erected in 1927 during a large building initiative in

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Kitchen and Dining Building (LACO No. 1295),* prepared for the County of Los Angeles June 2, 2008.

the 1920s under the Los Angeles County Poor Farm's most influential superintendent, William Ruddy Harriman (1915-1931; 1933-1952). The building was constructed as a secondary kitchen and dining hall to support the additional staff hired to work in the patient ward buildings, which were built nearby during the same time period. The Kitchen and Dining Building also supported the dining needs of a large grouping of staff residential buildings, which included staff cottages, small bungalows, and dormitory buildings. All of these residences except for two staff cottages were demolished in the early 1990s when Flores Street was constructed. Although the building has been somewhat altered, its exterior appearance still reflects its period of construction and retains integrity of location, feeling, association, design, materials, and workmanship. Most of its character-defining features are intact: regular fenestration, flat roof; and spare classical detailing including cornices, frieze, stringcourses, and base moldings. Its setting has been altered by the loss of the residential buildings that the building provided support for and the overall deterioration of the surrounding landscape.[2]

The building is reviewed below for its condition with the intent that it be adapted for institutional County office use in the future.

[2] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Rancho Los Amigos Historic District, Kitchen and Dining Building (LACO No. 1295),* prepared for the County of Los Angeles June 2, 2008.

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building built up roof. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **18,900 s.f.**
• **Exterior walls –** Exterior plaster is damaged in minimal amount of areas. It is repairable in most areas.	• **22,000 s.f. of plaster**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door openings are damaged and have been replaced. All existing original doors are missing and have been replaced with plywood.	• **2 pr. 3'x7' steel exterior doors** • **6- 3'x7' stl. doors**
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **32 3'x7' steel windows** • **Replace 20% in kind**

Interior Spaces

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **18,900 s.f.**

• **Walls –** Existing interior perimeter walls are of plaster and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **18,900 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

Character Defining features	
• **Roofing –** Replace built up roof and waterproof membrane. Replace existing substructure and replace with new substructure, rigid insulation, waterproofing membrane and flashing.	• **108,900 s.f.**
• **Exterior walls** – Repair and paint plaster. Provide loose-fill insulation to walls per manufacturer recommended installation method to minimize damage at interior faces.	• **22,000 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **2 pr.3'x7' steel exterior doors** • **6- 3'x7' stl. doors**
• **Windows and window openings** – Strip and remove paint, retrofit in place and replace window hardware and provide high-performance laminate glazing. Where repair is not possible replace in kind.	• **32 3'x7' steel windows** • **Replace 20% in kind**
Non character defining feature	

• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities adjacent to building. Perimeter exterior landscaping to be landscape and irrigation.	• **10,000 s.f. exterior perimeter.**

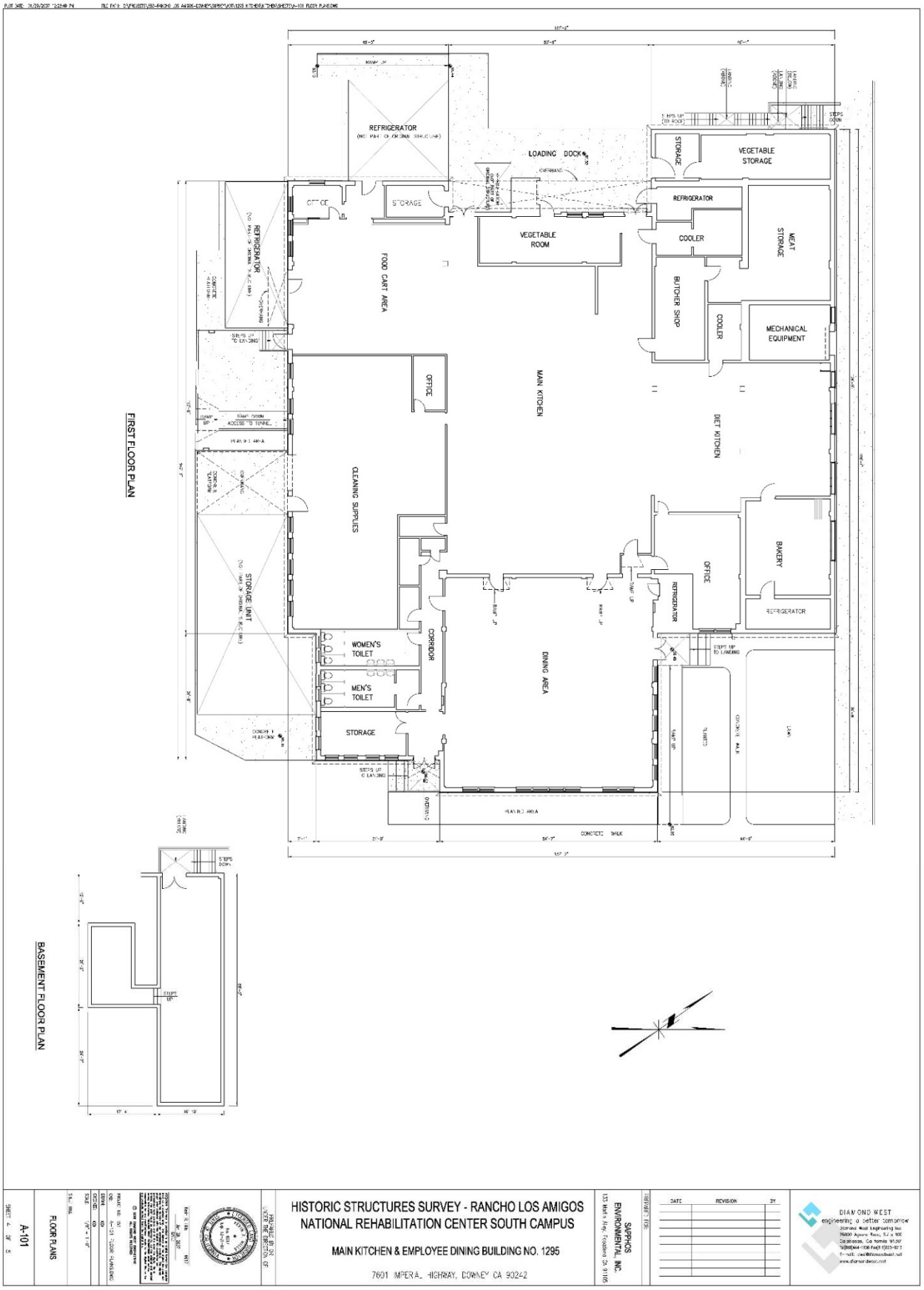
Interior Spaces

The existing interior spaces were severely vandalized and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

It is assumed that this 18,900 s.f. structure can be adapted to accommodate the programmatic needs for the County of Los Angeles Administrative Non-Essential Services offices. In order to provide a contemporary working environment per County space requirements, it is assumed that 75% of the existing layout will be demolished and the rest of the area converted into open office space. The new plan will not directly follow current LA County office area standards, which may need to be adjusted to accommodate building features.

• **Flooring** – Repair concrete floor and seal.	• **18,900 s.f.**
• **Walls –** Remove paint from masonry and all damaged plaster, repair in-kind per Secretary of the Interior's Standards. All Hollow Clay tile walls will have 4" 16 ga. studs and gyp. Bd. each side	
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **18,900 s.f.**
• **Millwork** – Provide new millwork for office spaces.	• **100 lf.**
• **Lighting –** Provide new high-efficiency LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 40-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	

• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **New restroom core 6 fixtures, 4 sinks.**
• **Electrical** – Provide new 800 Amp system.	
• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in two (2) locations and provide with new railings and new maximum slope of 8%	



HISTORIC STRUCTURES SURVEY - RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER SOUTH CAMPUS

MAIN KITCHEN & EMPLOYEE DINING BUILDING NO. 1295

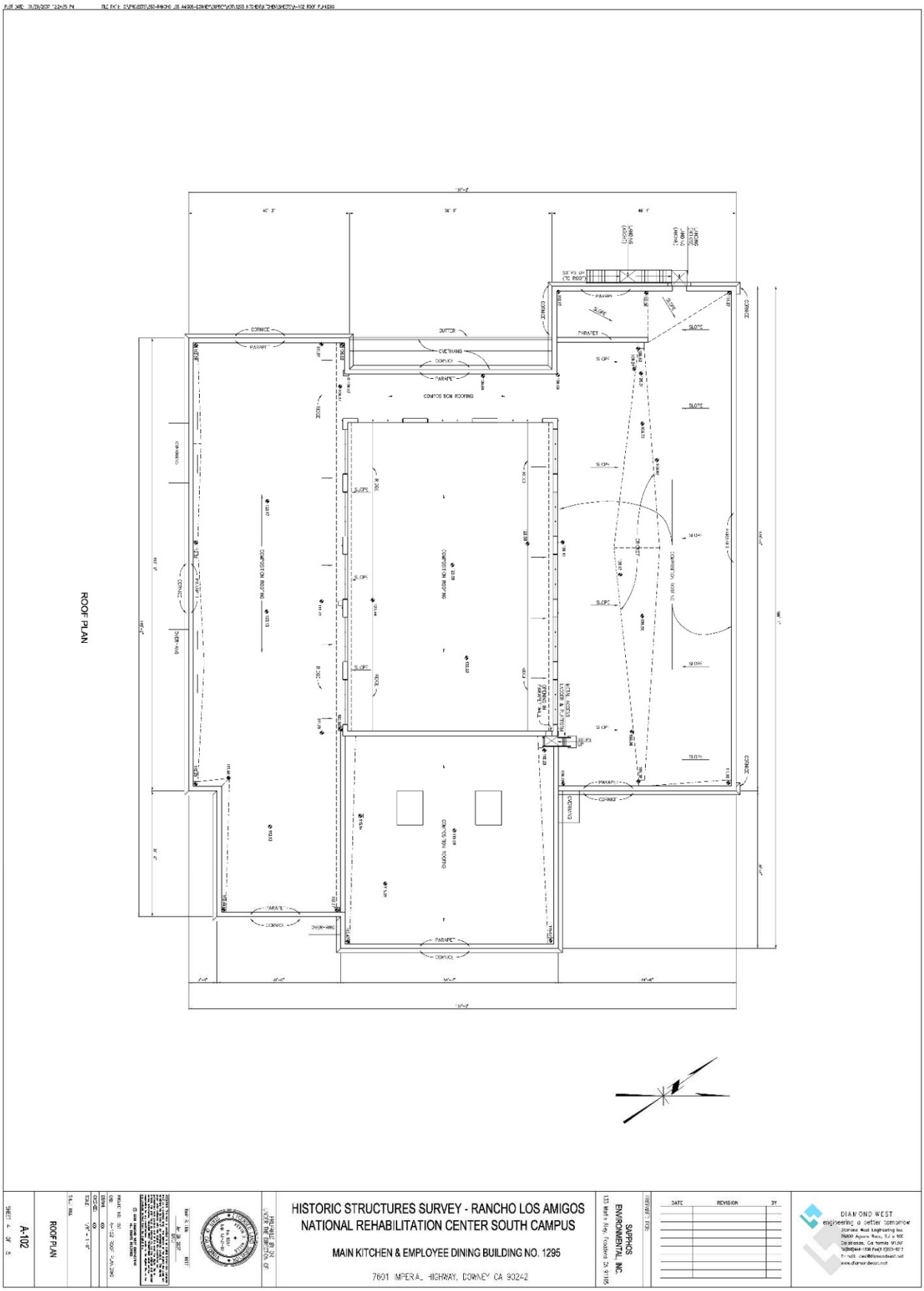
7601 IMPERIAL HIGHWAY, DOWNEY CA 90242

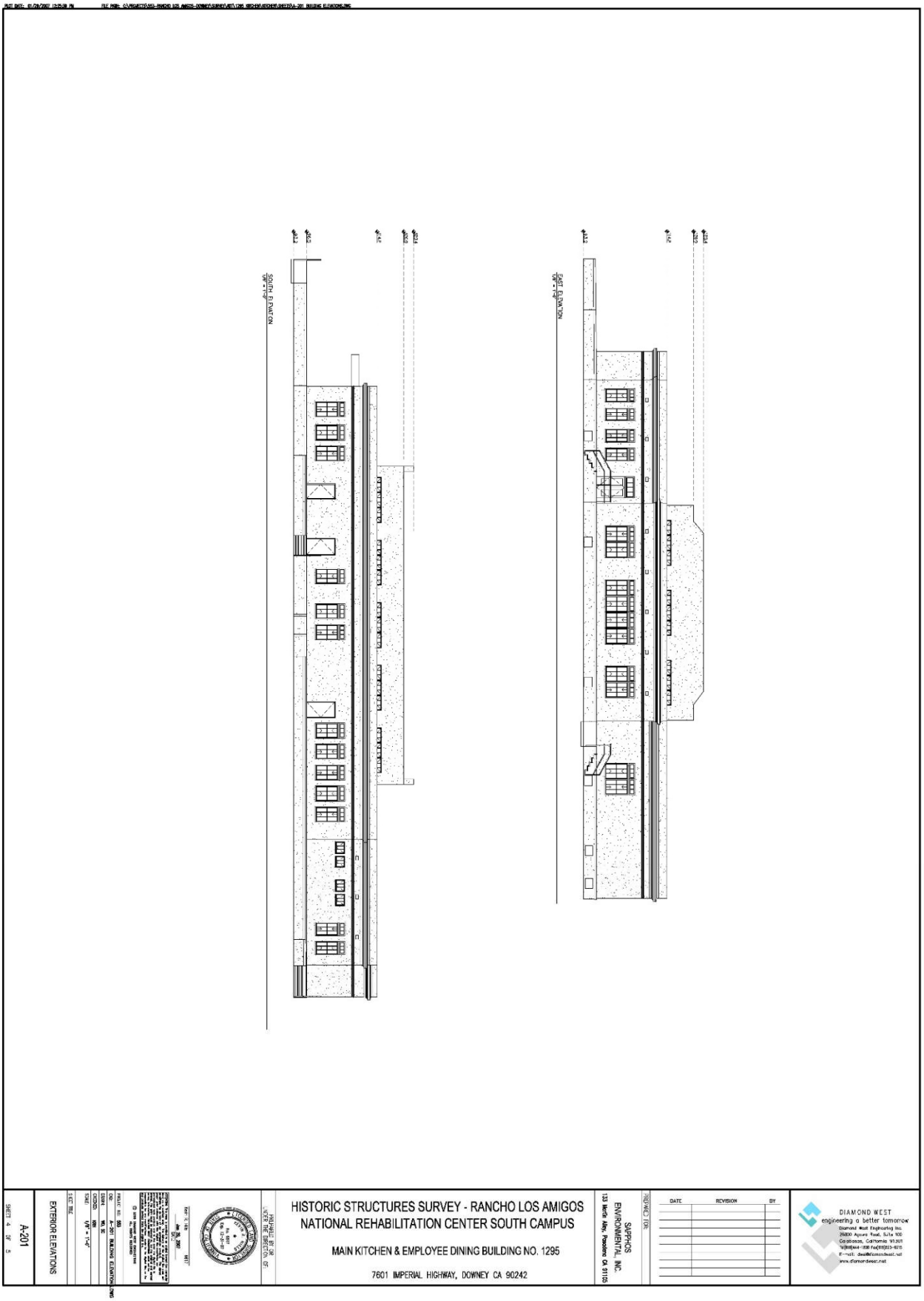
A-101

FLOOR PLANS

SAPPHOS ENVIRONMENTAL, INC.

DIAMOND WEST engineering a better tomorrow


ROOF PLAN
HISTORIC STRUCTURES SURVEY - RANCHO LOS AMIGOS
NATIONAL REHABILITATION CENTER SOUTH CAMPUS
MAIN KITCHEN & EMPLOYEE DINING BUILDING NO. 1295
7601 IMPERIAL HIGHWAY, DOWNEY CA 90242
A-102
ROOF PLAN
SAPPHOS ENVIRONMENTAL INC.
DIAMOND WEST


SOUTH ELEVATION
EAST ELEVATION
HISTORIC STRUCTURES SURVEY - RANCHO LOS AMIGOS
NATIONAL REHABILITATION CENTER SOUTH CAMPUS
MAIN KITCHEN & EMPLOYEE DINING BUILDING NO. 1295
7601 IMPERIAL HIGHWAY, DOWNEY CA 90242
EXTERIOR ELEVATIONS
A-201
SAPPHOS ENVIRONMENTAL, INC.
DIAMOND WEST
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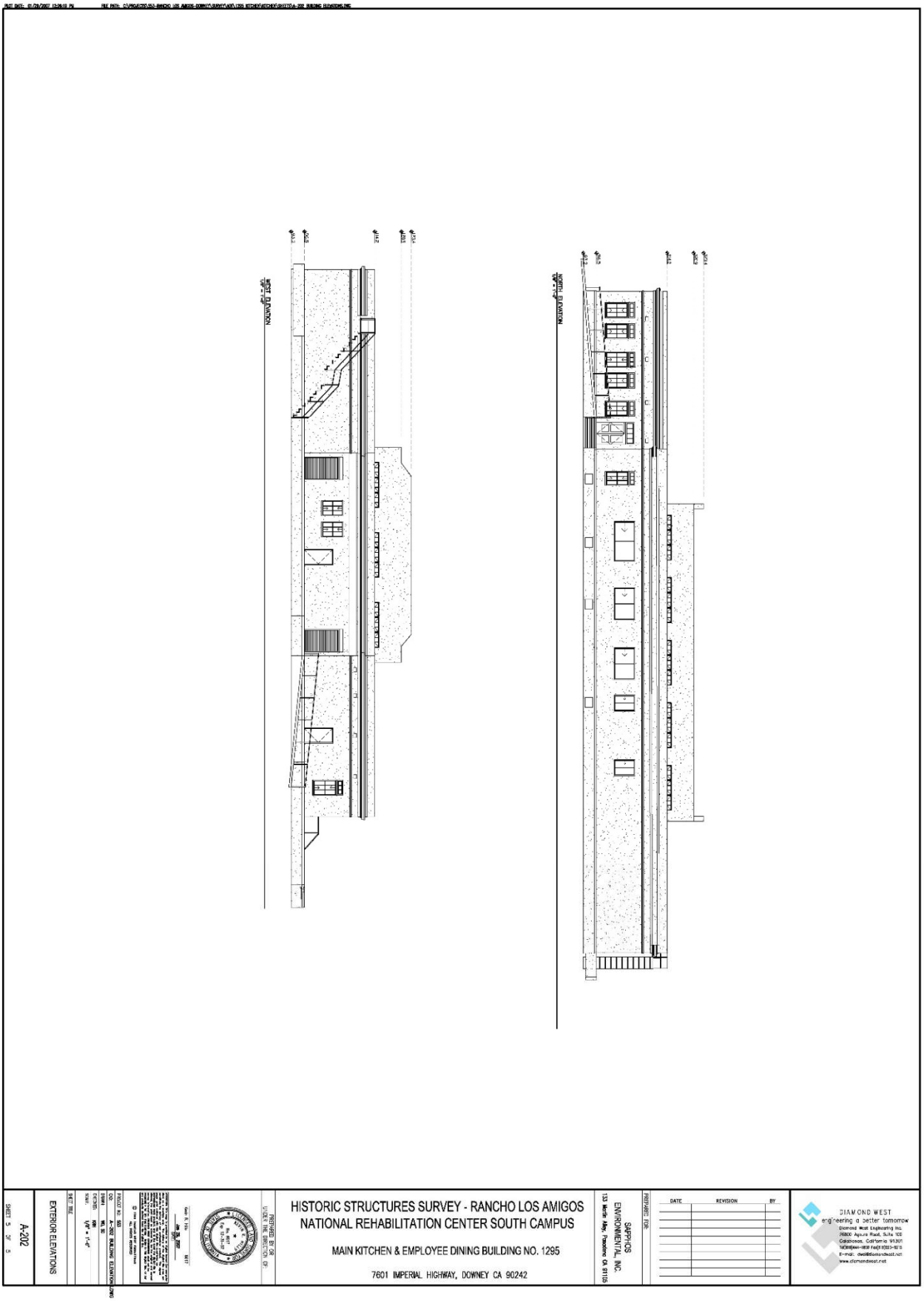
WEST ELEVATION
NORTH ELEVATION
HISTORIC STRUCTURES SURVEY - RANCHO LOS AMIGOS
NATIONAL REHABILITATION CENTER SOUTH CAMPUS
MAIN KITCHEN & EMPLOYEE DINING BUILDING NO. 1295
7601 IMPERIAL HIGHWAY, DOWNEY CA 90242
EXTERIOR ELEVATIONS
A-202
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DIAMOND WEST

Southeast corner with metal building addition

Interior Kitchen

1. Remove plywood, repair windows.
2. Remove and replace existing landscape and hardscape.
3. Replace all interior lighting.
4. Clean, repair, and paint interior walls and ceiling.
5. Remove all existing equipment and debris.

Interior Kitchen

East Entry Façade

1. Remove plywood, repair windows.
2. Remove and replace existing landscape and hardscape.
3. Replace all interior lighting.
4. Clean, repair, and paint interior walls and ceiling.
5. Remove all existing equipment and debris.

B LACO No. 1295 (Kitchen and Dining Building) – Structural Assessment Report

Structural Assessment: Kitchen and Dining Building
(LACO NO. 1295)

Summary of Assessment

The Kitchen and Dining Building (LACO No. 1295), constructed in 1927, is a one-story steel space frame building with a high and low roof and a partial basement. It has a fairly rectangular shape with dimensions approximately 115 feet × 153 feet, and a total area of about 18,908 square feet. Reentrant corners exist at the east side of the building. The roof is a concrete slab supported by steel trusses and steel framing.

This building appears to be in fair to poor condition. Minor signs of distress were observed, likely due to past earthquakes and settlement. Inside the building were signs of deterioration and damage, especially at the ceilings. The expected seismic performance of this building in its current condition is poor. There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Kitchen and Dining Building is a steel space frame building with a steel-framed roof supported by a grid of steel wide flange columns. The following information was gathered from a partial set of the original drawings which were available for review. The steel columns, typically 8 inches deep and encased in concrete, transfer the roof loads to the ground floor. The ground floor is a 4¼-inch reinforced concrete slab on concrete beams. Concrete columns, reinforced with spiral ties and 5/8-inch vertical square rods, are located beneath the building's steel columns to transfer loads to the spread footings and provide space for a crawl space and partial basement beneath the first floor. The exterior wall is supported by a continuous footing around the perimeter of the building footprint. Non-bearing unreinforced hollow clay tile infill walls enclose the building. Hollow clay tile walls are also used at some, if not all, of the building's interior walls. Different portions of the building have different ceiling heights that vary from 12 feet to about 24 feet. The roof slab is reinforced concrete, 3½ inches thick, with 3/8-inch square rods at 4 to 6 inches on center each way. The roof slab spans 6 to 8 feet and is supported by 4-foot to 6-foot deep steel trusses, which span east to west. Steel channel framing spans between the trusses. The concrete walls enclosing the high roof are 6 inches thick and reinforced with 3/8-inch bars spaced at 12 inches on center each way.

Condition Assessment

The Kitchen and Dining Building seems to be in fair to poor condition. The structure shows some signs of distress at the exterior (Figure 1) and signs of deterioration and some damage at the interior (Figure 2 and Figure 3). A pattern of light cracking is visible on the exterior facade, shown in Figure 4. This is probably due to expansion and contraction of the walls, the absence of joints at the interface between columns and wall, localized settlement of the foundation, and the lack of concrete headers above the windows. These cracks generally have widths less than 1/8 inch, which likely would not compromise the structural strength of the system. However, the structure should be checked thoroughly for more severe cracking. In some circumstances, it appears that patching has been repeatedly applied and cracking has propagated through the patches. At the southwest corner near the loading area, a crack extends from the header to the top of the parapet, shown in Figure 5. This crack is most likely caused by settlement of the foundation. When the building was observed in 2006, a pattern of shear cracks was observed on the 6-inch concrete wall of the high roof (Figure 6)[1]. These cracks, shown in Figure 7, typically occurred near windows at the joints between pier and spandrel. Most likely these indicate locations of cold joints at the time of construction and, due to a lack of adequate reinforcement, the piers could not resist the shear forces induced by previous earthquakes. The rooftop was not accessible during the most recent site observation, so cracks on the exterior 6-inch wall were not revisited. However,

[1] *Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

cracks were also seen at the interior side of the high roof walls (*Figure 8*). It is expected that the cracks observed previously still exist and may have increased in size slightly.

When observed in 2006, the underside of the roof slab had minimal spalling and deterioration (Figure 9). The supporting roof trusses appeared to be well constructed and only superficially rusted (Figure 10). The roof framing was not accessible for observation during the most recent visit due to safety concerns. It is expected that conditions at the roof are similar to those observed previously, but the rust, spalling, and deterioration have likely become more extensive with time.

The most apparent problem at the building was water damage. Standing water was found in the main dining room, and ceiling damage in multiple locations indicated excessive moisture above the ceiling. Figure 11 through Figure 13 show portions of the ceiling that have rusted and collapsed. Figure 14 shows standing water in the dining room, and Figure 15 shows an area where glued ceiling tiles have fallen, likely because moisture has weakened the adhesive strength of the glue. It is unclear to what extent the water above the ceiling affected the roof slab above. Prolonged exposure to abundant moisture may have caused a significant strength reduction in the already under-reinforced slab. Further investigation and testing would be required to determine the effect on the slab, the amount of corrosion in the rebar, and the remaining strength of the slab.

Evaluation of Structural Performance

The structural steel framing of the Kitchen and Dining Building was a well-conceived and well-executed system for gravity loads at the time of construction. The steel structure appears to be in fair condition today. However, there was no building code in place at the time of design, even for gravity design, and no consideration of seismic performance of the building. The steel used at the time of construction typically had significantly lower strength than steel used in modern construction. It was also more brittle, which limits the structure's capacity to resist lateral loads. This building has no positive connection between the roof slab and the walls, and there are no dowels from the walls to the foundation. The out-of-plane capacity of the walls is very limited due to the lack of anchorage and the unreinforced, brittle wall type. This poses a risk of partial collapse and a potential falling hazard.

The steel trusses at the roof appear to be in fair condition but may need strengthening to meet current code. The trusses should be investigated for severe corrosion or deterioration. The connections will need to be analyzed to determine their capacity. Furthermore, as mentioned above, the steel used in the early 1900s was a lower grade steel than what is currently used for construction, resulting in weaker and more brittle members. This should be taken into account when analyzing the capacity of the trusses, channels, and columns throughout the building. The steel columns throughout the building likely are not anchored to their foundations to sufficiently resist seismic forces. It is expected that the foundations throughout the building are inadequate for lateral loads and would need to be strengthened.

Hollow clay tile, a type of unreinforced masonry, was used for the exterior infill walls and the majority of interior partition walls (Figure 16). Current building code standards no longer allow unreinforced masonry to be used in new construction due to its poor performance in earthquakes even when properly detailed and when the masonry is in good condition. Hollow clay tile construction is especially concerning because hollow clay tile (HCT) walls are extremely brittle and generally not suitable for shear or bearing walls. HCT walls are known to be a high-risk potential falling hazard; the walls are likely to collapse, break into many pieces, and obstruct egress. It is highly recommended that all hollow clay tile walls be replaced or protected in place to mitigate the potential hazards associated with these walls.

Summary of Proposed Upgrades

The expected seismic performance of the Kitchen and Dining Building in its current condition is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

One or a combination of the following measures is suggested to increase the lateral strength of the building system. A full structural analysis would be needed to determine which method provides sufficient strength and if more than one method of strengthening per wall is required.

- Install new steel brace frames to reduce stresses on existing walls. Frames will be required in both the north-south direction and the east-west direction. Ideally, the frames would be installed at perimeter walls, though some frames could be required at the building interior.
- Install new concrete footings beneath the new brace frames.
- If steel brace frames would interfere with the windows of the building (one of the building's character-defining features), concrete moment frames and concrete shear walls could be used instead. New concrete footings would be needed beneath all concrete moment frames and shear walls.
- Shotcrete existing exterior walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the concrete to properly connect the existing wall to the shotcrete.
- Surface coat the walls with fiber reinforced polymer (FRP).
- Add a form of protective enclosure throughout the building where hollow clay tile infill occurs at exterior walls to mitigate potential falling hazards. If shotcrete or FRP is applied to exterior walls, it could be used to mitigate the potential falling hazards from the tiles.
- All hollow clay tile interior walls should be removed and replaced with non-brittle construction. Where the hollow clay tile walls were used as bearing walls or shear walls, they would need to be replaced with reinforced concrete or concrete masonry walls. Where hollow clay tile walls appear to be non-bearing, they may be replaced with metal stud walls. It is not recommended to leave any hollow clay tile walls in place due to the potential falling hazard and other possible risks they present. However, if there is a strong desire to leave non-bearing interior hollow clay tile walls in place, new heavy metal stud walls may be installed on both sides of the clay tile wall to prevent the tiles from falling.

Diaphragm

- Install new steel anchors between walls and diaphragm for out-of-plane forces. The anchors would most likely need to be installed no more than four feet apart; this building may require more closely spaced anchors.
- Add cross ties, collectors, and additional strengthening hardware as needed to provide a complete lateral load path.
- Strengthen connections between the concrete slab (diaphragm) and all existing lateral elements such as ties, drag beams, etc. Strengthen any existing connections between the diaphragm and the walls.

General Condition

- Patch and grout concrete walls and other areas where cracks have occurred.
- Apply moisture sealant as needed to the underside of the roof and floor slab to help protect slab and reinforcement from moisture.
- Test and analyze all slabs; strengthen as needed.
- Encapsulate all hollow clay tile infill walls as described above.
- Strengthen or replace steel framing as needed; substitute rivet connections with bolted connections if further analysis determines this strengthening is required.
- Remove and replace plaster ceilings and glued ceiling tiles. Repair or replace other ceiling types as needed.
- Upgrade foundations throughout the building.

Figure 1: Typical exterior condition, north side

Figure 2: Typical interior condition at kitchen

Figure 3: Interior deterioration at dining room

Figure 4: Exterior wall cracks

Figure 5: Continuous cracking from header to parapet

Figure 6: Concrete walls of high ceiling portion of the building

Figure 7: Shear cracks at the high roof wall, as seen in 2006

Figure 8: Interior cracking at high roof wall; cracking has propagated through patches

Figure 9: Underside of roof slab, as seen in 2006

Figure 10: Roof trusses and steel channel framing, as seen in 2006

Figure 11: Dining room condition including fallen ceiling

Figure 12: Deteriorated dining room ceiling

Figure 13: Roof framing exposed through deteriorated ceiling

Figure 14: Standing water on dining room floor

Figure 15: Fallen ceiling tiles

Figure 16: Evidence of hollow clay tile interior walls

C LACO No. 1295 (Kitchen and Dining Building) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Kitchen and Dining Building (LACO 1295)

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MGAC

Feasibility Study Cost Plan — Kitchen and Dining Building (LACO 1295)

			SF	$/SF	TOTAL $ x 1,000
B1	Kitchen and Dining Building (LACO 1295)		18,908	499.37	9,442
SUB-TOTAL BUILDING CONSTRUCTION			18,908	499.37	9,442
S1	Sitework		10,000	80.50	805
	Premium for enhanced sustainable site features				154
SUB-TOTAL SITEWORK					959
TOTAL BUILDING AND SITEWORK					**10,401**
Escalation to Midpoint (Jul 2021)		11.7%			1,213
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			929
	Project Management Consultant Services	3.0%			376
	FF & E	5.8%			749
	Taxes and Indirect Fees	1.0%			137
	Building Permit and Other Agency Fees	1.5%			207
	Owner Contingency/Construction Contingency	25.0%			3,503
Recommended Budget					***17,515***

Feasibility Study Cost Plan — Kitchen and Dining Building (LACO 1295) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	18,908		
TOTAL GROSS FLOOR AREA	**18,908**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	0.053
Gross Area		18,908	SF	1.000
Enclosed Area		18,908	SF	1.000
Covered Area		0	SF	-
Footprint Area		18,908	SF	1.000
Gross Wall Area		22,000	SF	1.164
Finished Wall Area		22,000	SF	1.164
Windows or Glazing	3%	700	SF	0.037
Roof Area - Flat		18,908	SF	1.000
Roof Area - Total		18,908	SF	1.000
Roof Glazing Area		0	SF	-
Interior Partitions		1,000	LF	0.053
Finished Area		18,908	SF	1.000

MGAC

Feasibility Study Cost Plan — Kitchen and Dining Building (LACO 1295) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	18,908 SF	
A10	Foundations		4%	19.56	370
A20	Basement Construction		0%	0.00	0
A	Substructure		4%	19.56	370
B10	Superstructure		13%	66.54	1,258
B20	Exterior Enclosure		8%	38.28	724
B30	Roofing		5%	24.50	463
B	Shell		26%	129.32	2,445
C10	Interior Construction		3%	13.31	252
C20	Stairways		0%	0.00	0
C30	Interior Finishes		11%	53.19	1,006
C	Interiors		13%	66.50	1,257
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		4%	17.68	334
D30	Heating, Ventilation & Air Cond.		10%	48.06	909
D40	Fire Protection		1%	7.00	132
D50	Elect'l Lighting, Power & Comm.		16%	80.21	1,517
D	Services		31%	152.95	2,892
E10	Equipment		0%	0.00	0
E20	Furnishings		1%	5.60	106
E	Equipment & Furnishings		1%	5.60	106
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		3%	17.11	324
F	Special Construction & Demolition		3%	17.11	324
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	391.04	7,394
Z10	Design Contingency	10.00%	8%	39.10	739
Z11	General Requirements	4.00%	3%	17.21	325
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	447.35	8,458
Z21	General Conditions	6.00%	5%	26.84	508
Z22	Bonds & Insurance	1.50%	1%	7.11	134
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	18.05	341
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	499.35	9,442
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	499.37	9,442

Feasibility Study Cost Plan — Kitchen and Dining Building (LACO 1295)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				141,810
Foundation upgrade	18,908	SF	7.50	141,810
New elevator pit				*n/a*
A1020 Special Foundations				
A1030 Slab On Grade				228,000
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	7,600	SF	30.00	228,000
Remove/replace ramp including railings				*site*
				369,810
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				880,000
Strengthen connections between floors and lateral elements				*n/a*
Allow shotcrete to interior face of exterior walls	22,000	SF	40.00	880,000
Patch/repair damaged suspended slab, allow 75%				*n/a*
Lightweight concrete topping, 1-1/2"				*n/a*
B1020 Roof Construction				378,160
Repair roof structure, install new steel anchors between walls and diaphragm, install additional steel connectors as needed, add ties, replace roof sheathing	18,908	SF	20.00	378,160
				1,258,160

	Quantity	Unit	Rate	Total
B20 Exterior Enclosure				
B2010 Exterior Walls				638,000
Patch, repair plaster exterior walls, allow 40%	8,800	SF	30.00	264,000
Elevator corewalls				n/a
Painting to exterior walls	22,000	SF	3.00	66,000
Patch, plaster and repaint interior face of exterior walls	22,000	SF	14.00	308,000
Loose fill insulation				*n/a*
B2020 Exterior Windows				79,800
Strip and remove rust, retrofit existing windows, replace hardware, install new high performance glazing	560	SF	110.00	61,600
New windows similar kind, high performance glazing, allow 20%	140	SF	130.00	18,200
B2030 Exterior Doors				6,000
New exterior doors	2	EA	3,000.00	6,000
				723,800
B30 Roofing				
B3010 Roof Coverings				463,246
New built-up roofing (including premium for cool roof) including rigid insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	18,908	SF	24.50	463,246
				463,246
C10 Interior Construction				
C1010 Partitions				90,000
Patch/repair existing partitions, 20%	3,000	SF	30.00	90,000
New partitions				*n/a*
C1020 Interior Doors				46,000
New wood doors including frames and hardware	20	EA	2,300.00	46,000

	Quantity	Unit	Rate	Total
C1030 Fittings				115,632
Toilet partitions and accessories	20	EA	2,000.00	40,000
Code required signages, fire extinguisher cabinets, markerboard, whiteboards, projection screen, lockers, etc	18,908	SF	4.00	75,632
				251,632

C20 Stairways

C2010 Stair Construction				
Repair/repaint existing stairs and railing				n/a
C2020 Stair Finishes				
New stair finishes				n/a
				0

C30 Interior Finishes

C3010 Wall Finishes				211,520
Repair damaged wall plaster and repaint - interior partitions	20,000	SF	10.00	200,000
Plaster and paint to new partitions				*n/a*
Ceramic wall tiles to toilets	640	SF	18.00	11,520
C3020 Floor Finishes				132,356
New floor finishes including base	18,908	SF	7.00	132,356
Existing flooring to remain, allow for cleaning				*n/a*
C3030 Ceiling Finishes				661,780
New gypsum plaster ceiling on wood lathe	18,908	SF	35.00	661,780
				1,005,656

	Quantity	Unit	Rate	Total
D10 Conveying Systems				
D1010 Elevators & Lifts				
Passenger elevator				n/a
				0
D20 Plumbing Systems				
D2010 Plumbing Fixtures				48,000
Sanitary fixtures and local connection pipework - motion activated flushing valves	24	EA	2,000.00	48,000
D2020 Domestic Water Distribution				82,000
Domestic service pipework				
Hose bibs, 3/4" (allowance)	1	EA	2,500.00	2,500
Domestic service pipework, fittings - rough in hot and cold water systems, Cu type 'L'	24	EA	3,000.00	72,000
Water treatment, storage and circulation				
Natural gas fired boiler, storage type, including pumps, 100 gph	1	LS	7,500.00	7,500
D2030 Sanitary Waste				128,724
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with connection pipework, trap primers - allow	18,908	SF	2.00	37,816
Condensate drainage pipework, fittings, < = 1-1/2", insulated	18,908	SF	1.00	18,908
Waste, vent, fittings, < = 6"	24	EA	3,000.00	72,000
D2040 Rain Water Drainage				56,724
Surface water drainage				
Roof & overflow drains, < = 6"	18,908	SF	3.00	56,724
D2090 Other Plumbing Systems				18,908
Natural gas				
Pipework, fittings, seismic regulation, equipment connections	1	LS	18,908.00	18,908
				334,356

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Roof-mounted (gas-electric) units w VAV zoning				
D3020 Heat Generating Systems				203,001
Natural-gas fired boiler, flue				
Condensing type, hi-efficiency (45 bth/SF)	850	mbth	27.50	23,375
Thermal compensation and circulatory equipment, including VFDs and vibration isolation	18,908	SF	1.50	28,362
Piping, fittings, valves and insulation				
HHW pipework, fittings, equipment connections and insulation	18,908	SF	8.00	151,264
D3040 Distribution Systems				429,566
Air distribution and return				
Galvanized sheet metal ductwork (1.25# /SF)	23,635	LB	12.00	283,620
Dampers	1	LS	28,362.00	28,362
Insulation	17,726	SF	4.50	79,768
Diffusers, registers and grilles	18,908	SF	2.00	37,816
D3050 Terminal & Package Units				158,908
Roof-top packaged (gas-electric) units, supply/return fans, hi-efficiency filtration, economizer section, sound attenuation, vibration isolation	40	Ton	3,500.00	140,000
VAV boxes, terminal reheat (1/1,000 SF)	19	EA	1,000.00	18,908
D3060 Controls and Instrumentation				85,086
Controls and instrumentation				
LED Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	18,908	SF	4.50	85,086
D3070 Systems Testing & Balancing				28,362
Test and balance air systems	18,908	SF	1.50	28,362

	Quantity	Unit	Rate	Total
D3090 Other HVAC Systems & Equipment				3,750
Unit ventilation/exhaust fans				
Restroom, plant rooms, general, < = 1,000 cfm	1	LS	3,750.00	3,750
				908,673
D40 Fire Protection				
D4010 Sprinklers				132,356
Fire protection				
Automatic wet fire sprinklers - complete				
Interior spaces	18,908	SF	7.00	132,356
				132,356
D50 Elect'l Lighting, Power & Comm.				
D5010 Electrical Service & Distribution				334,803
Mains power and distribution				
Main switchboard, 480-120/208 V, associated distribution equipment and feeders	1,000	AM	65.00	65,000
Emergency power				
Emergency power generator, sound attenuated, transfer switch, distribution equipment and feeders - 25% normal power	55	kVA	975.00	53,625
Photovoltaic panels	30	KW	5,000.00	150,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, A/V equipment, dampers, BMS power, fire, IT and security systems	18,908	SF	3.50	66,178
D5020 Lighting & Branch Wiring				756,320
User convenience power				
Panel board breakers, 120 V circuits	18,908	SF	2.00	37,816
Receptacles, including conduit and cable	18,908	SF	5.50	103,994

	Quantity	Unit	Rate	Total
Lighting				
Fixtures/switching/motion sensors, including conduit and cable, Title 24 + 15%	18,908	SF	27.50	519,970
Lighting and power specialties				
Lighting control - digital addressable, daylight dimming	18,908	SF	5.00	94,540
D5030 Communications & Security				264,712
Telephone and communications				
Telephone/data - including conduit & cable	18,908	SF	6.50	122,902
WAP	18,908	SF	1.00	18,908
DAS - Emergency response & cellular	18,908	SF	4.00	75,632
Cable tray/wire-way/j-hooks	18,908	SF	1.00	18,908
Audiovisual rough-in	18,908	SF	1.50	28,362
D5090 Other Electrical Systems				160,718
Fire alarm systems	18,908	SF	4.50	85,086
Security - perimeter access control & CCTV surveillance	18,908	SF	4.00	75,632
				1,516,553
E10 Equipment				
E1020 Institutional Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				105,900
Cabinets, countertops shelving and millwork	100	LF	800.00	80,000
Lavatory countertop	18	LF	300.00	5,400
Window treatment, mechoshade, manual	700	SF	15.00	10,500
Entrance mat	1	LS	10,000.00	10,000
				105,900

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				181,772
Exterior window	140	SF	5.00	700
Doors	22	EA	200.00	4,400
Demo roofing including roof sheathing	18,908	SF	4.00	75,632
Demo hollow clay tile partitions, interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	18,908	SF	5.00	94,540
Allow for clearing/removal of storage debris	100	MH	65.00	6,500
F2020 Hazardous Components Abatement				141,810
Hazmat abatement - allowance	18,908	SF	7.50	141,810
				323,582

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Kitchen and Dining Building (LACO 1295)				
Gross Site Area	28,900	SF		
Building footprint	18,908	SF		
Net Site Area	10,000	SF		
General site clearing, demo and remove paving/landscaping	10,000	SF	4.00	40,000
Site paving, site structures, fencing, landscaping & irrigation	10,000	SF	25.00	250,000
Premium for permeable paving	5,000	SF	13.00	65,000
Remove/replace ramp including railings	2	EA	7,500.00	15,000
Site lighting and drainage	10,000	SF	6.00	60,000
Site utilities	10,000	SF	20.00	200,000
Alternate Cost Before Markups				**630,000**
Z10 Design Contingency	10.00%			63,000
Z11 General Requirements	4.00%			27,720
Z21 General Conditions	6.00%			43,243
Z22 Bonds & Insurance	1.50%			11,459
Z23 Contractor's Overhead, Profit & Fee	3.75%			29,078
				804,501

D LACO No. 1295 (Kitchen and Dining Building) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
Kitchen and Dining #1295

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Kitchen and Dining (LACO #1295) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Kitchen and Dining #1295 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes.

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

However, the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Kitchen and Dining (LACO #1295), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is the building's stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular building standards or alternative standards

		under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is severely deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project, light gauge prefinished aluminum components are an acceptable alternative to a more durable construction system. Provide rain leader*

		extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior masonry has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly, the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, although in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects to the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals of small animals and pests prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed, as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present, and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

		After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and other documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins,*

		vandalism, fire alarms, security alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department* *Install manual fire extinguishers attached to*

		the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and	Yes. County staff stated that all utility services are shut off outside the buildings.

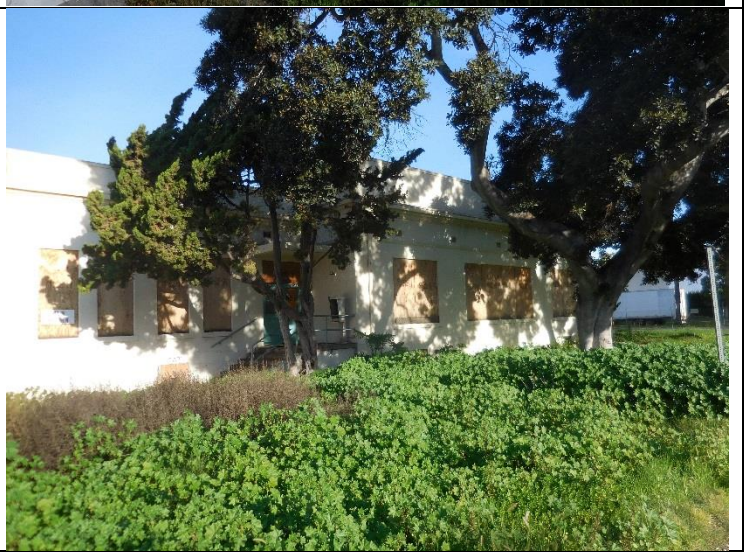
	electric lines?	Electrical will have to be re-activated for smoke and fire detectors. *No action required.*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-I	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds

		• check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion, feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS

Kitchen and Dining #1295

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Southeast corner with non-contributing addition.	
2	East elevation and overgrown landscaping	

3	Interior looking north.	
4	Interior condition, hoods and equipment to be removed.	
5	Interior equipment to be removed.	

E LACO No. 1295 (Kitchen and Dining Building) – Mothballing Cost Plan

MGAC

Mothballing Cost Plan

Kitchen and Dining Building (LACO 1295)

MGAC

Mothballing Cost Plan — Kitchen and Dining Building (LACO 1295)

			SF	$/SF	TOTAL $ x 1,000
B1	Kitchen and Dining Building (LACO 1295)		18,908	26.92	509
TOTAL BUILDING CONSTRUCTION			18,908	26.92	509
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**509**
Escalation to Midpoint (Jul 2021)		11.7%			59
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			23
	Project Management Consultant Services	2.0%			12
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			6
	Building Permit and Other Agency Fees	1.5%			9
	Owner Contingency/Construction Contingency	10.0%			62
Recommended Budget					***680***

MGAC

Mothballing Cost Plan — Kitchen and Dining Building (LACO 1295)

Item Description	Quantity	Unit	Rate	Total
1.) Kitchen and Dining Building (LACO 1295)				
No of floors	***1***	***EA***		
Gross Floor Area	***18,908***	***SF***		
Gross Wall Area	***2,200***	***SF***		
Roof Area	***18,908***	***SF***		
Windows Area	***700***	***SF***		
Gross Site Area	***28,900***	***SF***		
Building footprint	***18,908***	***SF***		
Net Site Area	***10,000***	***SF***		
Stabilized structure	18,908	SF	1.50	28,362
Repaint exterior walls	2,200	SF	2.00	4,400
Protect existing openings (exterior doors)	10	EA	800.00	8,000
Install hard protection/boarding to windows	700	SF	25.00	17,500
Seal all openings to eliminate small animals and pests from entering and nesting in the building	2,200	SF	0.10	220
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	18,908	SF	15.00	283,620
Termites, ants, rodents etc - inspection and allowance for treatment	18,908	SF	0.25	4,727
Install smoke & fire detectors	18,908	SF	1.00	18,908
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	7	EA	275.00	1,925
Remove debris and broom clean	18,908	SF	0.75	14,181
Clear site of weeds and overgrown trees	10,000	SF	0.50	5,000
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**396,343**
Z10 Design Contingency	15.00%			59,451
Z11 General Requirements	3.00%			13,674
Z21 General Conditions	3.00%			14,084
Z22 Bonds & Insurance	1.50%			7,253
Z23 Contractor's Overhead, Profit & Fee	3.75%			18,405
				509,211

Feasibility Study Reports for LACO No. 1335 (Brooder House/ Vivarium Annex)

Secondary Contributor

ESA

A LACO No. 1335 (Brooder House/ Vivarium Annex) – Architectural Assessment Report

Brooder House (LACO 1335)

342 s.f. remaining
Built 1929
Secondary Contributor to Historic District

Building Description

The Brooder House/Vivarium Annex (LACO No. 1335) is located in an open area west of Juniper Street and north of Aliso street. Utilitarian in style, the Brooder house is one-story, symmetrical in appearance and rectangular in plan. It is capped by a low-pitched front gabled roof with slightly overhanging eaves. Rolled asphalt sheets cover the roof. The building sits on a concrete slab foundation and its exterior walls consist of painted unreinforced brick masonry. A band of concrete at the top wall plate forms a sort of frieze. The primary entrance is centered on the east façade and consist of a wide wood door set between two boarded up, half-sized sidelights and beneath a boarded-up transom. The triangular head of this "surround" echoes the pitch of the roof. Rectangular screened vents openings are located in a linear arrangement high up on the side and rear elevations below the eaves. A series of large, rectangular openings set at nearly ground level on the side elevations indicate that they were intended for the building's original occupants, which were hens. A shed is located directly north of the structure and has a concrete block structural system and wood paneled doors. The property shows evidence of substantial fire damage.[1]

Statement of Significance

The significance of LACO No. 1335 was described on a California State Department of Parks and Recreation (DPR) inventory form prepared by ESA in 2018, as follows:

> The Brooder House/Vivarium Annex (LACO No. 1335) was constructed in circa 1926 as an annex to the Vivarium. Its purpose was to house hens and incubate eggs. ESA evaluated LACO No. 1335 under the following historical theme: Development of the Los Angeles County Poor Farm and Rancho Los Amigos (1888-1952). Based upon its date of construction and building type, LACO No. 1335 appears significant for its association with the Development of Rancho Los Amigos (1907-1932) era. LACO No. 1335 retains sufficient integrity to convey its original use as an integral part of the Rancho's poultry operations. Despite alterations, it is still intact and, in its present condition, retains integrity of location, design, materials, workmanship, feeling, and association. It does not retain integrity of setting because it the only remaining building or structure left in the large southwestern portion of the South Campus that was dedicated to poultry operations. LACO No. 1335 retains sufficient integrity to convey its historical associations with the transition of the property from a poor farm to long-term care facility that had to supply its own food and sell surplus to maintain a profit. Therefore, ESA

[1] Rebecca L. Silva, Sapphos Environmental, Inc., *Department of Parks and Recreation DPR 523L form for the Los Amigos Historic District, Brooder House (LACO No. 1335),* prepared for the County of Los Angeles June 2, 2008.

recommends that the eligibility of LACO No. 1335 remain unchanged and that it continues to be considered a contributor to the District. ESA recommends that LACO No. 1335 retain its existing NRHP status code of 2D2, noting it as a contributor to the District.[2]

Existing Conditions

Exterior Character Defining Features

• **Roofing-** Building has asphalt rolled sheets. Water intrusion within the building indicates substantial deterioration of areas of the roof because of fire. All roofing components – including flashing, roof and gutters, and eaves – are in need of repair or replacement.	• **350 s.f.**
• **Exterior walls –** Exterior masonry is damaged in minimal amount of areas. It is repairable in most areas.	• **500 s.f.**
• **Exterior trim** – Minimal trim is located on the exterior walls, primarily at window sills, jambs and head.	
• **Doors and door openings** – Existing door is missing.	
• **Windows and window openings** – Existing wood windows are damaged or inoperable due both to vandalism and from exposure to weather. All wood windows are covered with plywood. Glass is broken; however, wood frames appear to be salvageable. Wood sills will need replacement.	• **17 screen vents at openings, assume 120 s.f. total**

Interior Spaces – Non-Character Defining

The existing interior spaces were severely vandalized, and water damaged. The debris will have to be removed by protocols of hazardous material removal and disposal.

[2] Margarita Jerabek, et al., ESA, *Department of Parks and Recreation DPR 523A/523B form for the Rancho Los Amigos Historic District, Brooder House/Vivarium Annex (LACO No. 1335),* prepared for the County of Los Angeles January 8, 2018.

• **Flooring** – Existing flooring was difficult to observe due to trash and debris covering the floor. However, water damage to the flooring was observed as well as visible standing water on flooring materials.	• **342 s.f.**
• **Walls –** Existing interior perimeter walls are of masonry and appear to be useable for most of the area.	
• **Ceiling** – Ceiling was damaged because of water intrusion. Portions of the ceiling have non-primary areas that are exposed, and which have been severely damaged.	• **342 s.f.**
• **Lighting** – All ceiling lights were damaged or missing.	
• **Mechanical ventilation** – Non-contributing mechanical ducts with exposed ducting were observed and will need to be removed in their entirety.	

Proposed New Upgrades

Exterior

Character Defining features	
• **Roofing –** Replace entire built-up roof, waterproof membrane. Replace existing plywood substructure and replace with new substructure, batt insulation, waterproofing membrane and flashing.	• **350 s.f.**
• **Exterior walls** – Repair and repoint masonry. Provide insulation in walls per manufacturer recommended installation method to minimize damage at interior faces.	• **542 s.f.**
• **Doors and door openings –** All existing doors have been substantially altered or vandalized; replace to match existing door and openings.	• **1 pair 3'0 x 9' wood doors.**

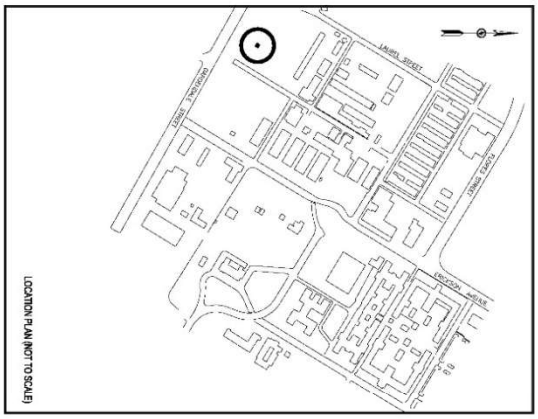
• **Windows and window openings** – All vent openings to be replaced with steel wire mesh vents.	• **17 screen vents at openings, assume 120 s.f total**
Non character defining feature	
• **Site –** Remove existing exterior pavement and landscaping, provide new hardscape and landscape with pedestrian amenities at entry.	• **3,000 s.f. hardscape and amenities.**

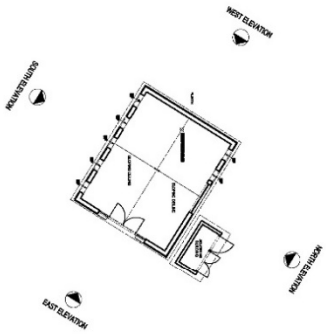
Interior Spaces

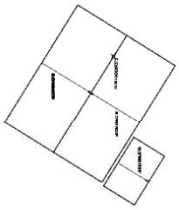
The existing interior spaces were severely deteriorated due to extensive fire damage. Clean up and refurbish interior walls.

• **Flooring** – Repair damaged concrete floor. Remove and replace concrete floor in restrooms, 800 s.f.	• **342 s.f. repair**
• **Walls –** Remove paint from masonry and all damaged plaster, repair in-kind per Secretary of the Interior's Standards.	• **500 s.f.**
• **Life safety –** Provide new sprinkler and fire alarm system throughout per CFC 903.4.2 for assembly use.	
• **Ceiling –** Remove and replace damaged plaster ceiling throughout. Provide loose-fill insulation above.	• **542 s.f.**
• **Millwork** – None anticipated.	
• **Lighting –** Provide new high-performance LED lighting, daylight controls, and occupancy sensors throughout per County of LA standards.	
• **Mechanical ventilation –** Provide new 5-ton high-efficiency HVAC system and controls ground mounted with hard duct exposed throughout.	
• **Plumbing –** Provide complete new underground plumbing main lines for restrooms, and office space.	• **Sink only**
• **Electrical** – Provide new 100 Amp system.	

• **Title 24/ADA requirements –** Provide new restrooms, path of travel, doors and hardware throughout. Remove and replace ramp in entry location and provide with new railings and new maximum slope of 8%	

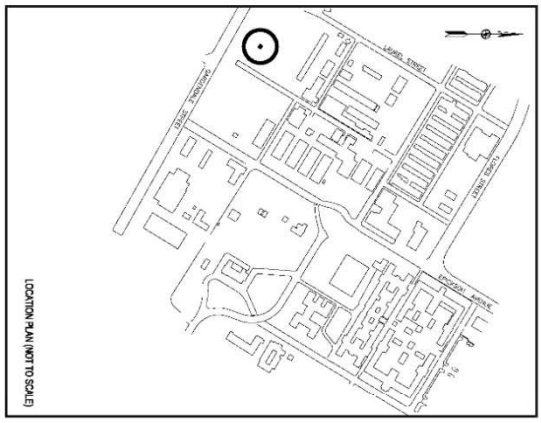


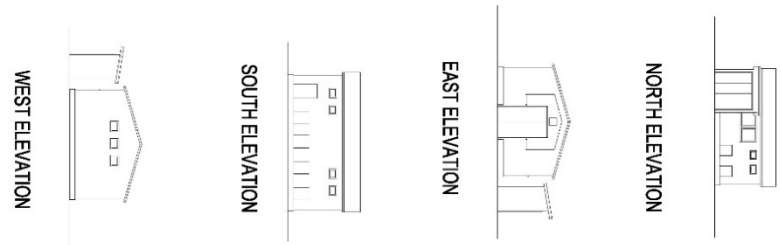




SOURCE: Mollenhaur Group April 2007

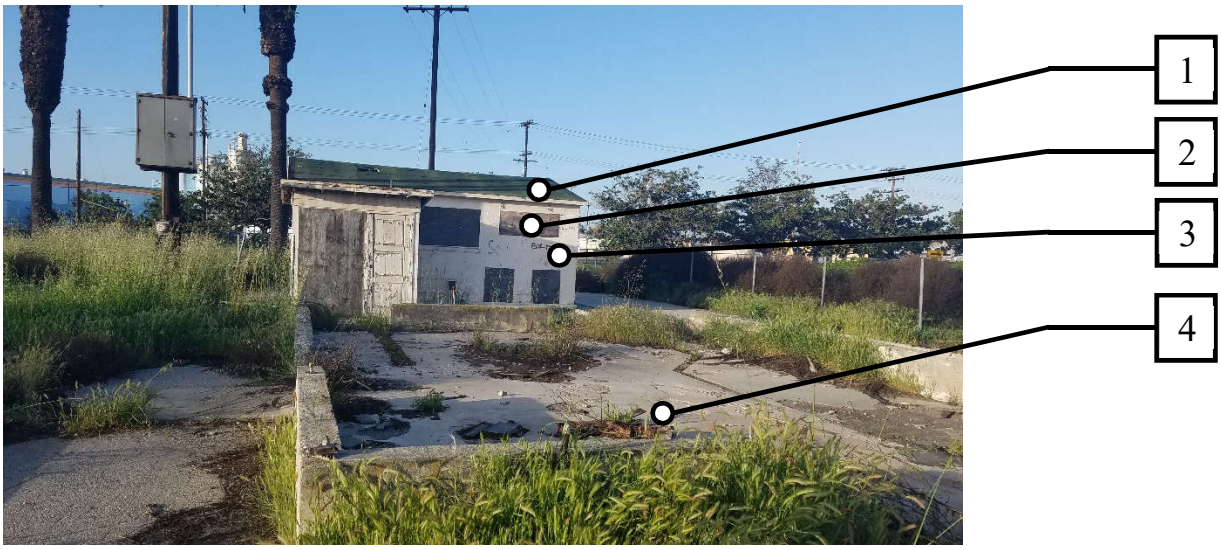
HABS DOCUMENTATION for Los Angeles County Poor Farm	Brooder House/Vivarium Annex 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-Y





SOURCE: Mollenhaur Group April 2007

HABS DOCUMENTATION for Los Angeles County Poor Farm	Brooder House/Vivarium Annex 7601 Imperial Highway, Downey (Los Angeles County, CA)	Historic American Buildings Survey CA-2800-Y



North Elevation and Partial Foundation

Interior with Fire Damage

1. Remove and replace roofing assembly.
2. Provide new screen vents.
3. Clean and repair brick masonry and grout joints.
4. Clean and remove site debris.
5. Clean and repair fire damaged walls.
6. Provide new pair of wood doors.

South Elevation

1. Remove and replace roofing assembly.
2. Provide new screen vents.
3. Clean and repair brick masonry and grout joints.
4. Clean and remove site debris.
5. Clean and repair fire damaged walls.
6. Provide new pair of wood doors.

B LACO No. 1335 (Brooder House/ Vivarium Annex) – Structural Assessment Report

Structural Assessment: Brooder House/Vivarium Annex
(LACO NO. 1335)

Summary of Assessment

The Brooder House/Vivarium Annex (LACO No. 1335) is a small one-story building with a wood roof system supported by unreinforced brick masonry walls. This building has limited lateral force resisting capacity. The structural components are not properly connected to resist a moderate earthquake. Additionally, a fire in the building has affected nearly the entire interior structure and has likely compromised the structural integrity of the building. Next to the building is a small shed built of concrete masonry walls with a wood roof. This shed was likely added later, due to the different type of masonry construction. The shed has not been analyzed in depth, but similar to the main building, it is in poor condition and not expected to perform well in an earthquake.

There are feasible engineering solutions, structural upgrades, and seismic retrofit measures that could be implemented to facilitate rehabilitation and adaptive reuse of this patient ward building. A detailed summary of these measures is included in the final section of this report.

Description of the Building

The Brooder House/Vivarium Annex building (LACO No. 1335) is a rectangular single-story building, encompassing a total area of approximately 342 square feet. The main structure, reportedly built in 1929, consists of unreinforced masonry brick walls. A large door opening exists on the east elevation, and multiple openings are positioned low across the north and south elevations (Figure 1 and Figure 2)[1]. Small ventilation openings exist in all four walls. The walls appear to be resting on a small concrete stem wall, indicating a footing exists. The gable roof consists of wood purlins, approximately six inches in width and spaced about four feet on center, supporting wood sheathing (Figure 3). Due to fire damage, the characteristics of the diaphragm were difficult to determine but it is expected to consist of straight board sheathing. The roof members are embedded in a concrete grout layer at the top of the wall but contain no additional wall anchors. A shed stands approximately two feet north of the Brooder House/Vivarium Annex (shown in Figure 2). This shed is a concrete masonry structure with walls on three sides. The north side is enclosed with a wood door. The roof of the shed consists of wood framing. It is likely that the shed was built later than the main building, since concrete masonry was not used in any of the original buildings at the site. It is unknown whether the masonry walls of the shed are reinforced.

Condition Assessment

The Brooder House/Vivarium Annex (LACO No. 1335) appears to be in poor condition. There is extensive interior fire damage which may have decreased the strength of the roof (Figure 3 and Figure 4). Experts in fire damage should be retained to perform a complete assessment and determine if the wood framing (and the rest of the structure) has maintained its structural capacity or must be replaced. Paint is peeling on the exterior masonry walls. However, more significant damage was not apparent. The paint may have helped to protect the masonry from weather damage. The inside of the shed was not accessible for observation, but the eaves show extreme deterioration in the roof sheathing (Figure 5), indicating that fire and/or water damage may be found inside the structure as well.

Evaluation of Structural Performance

Unreinforced brick masonry structures tend to perform very poorly during moderate earthquakes. This is because of their heavy construction and lack of reinforcement. The age of this building and its lack of significant lateral design are associated with a risk of partial or total collapse in the event of a moderate earthquake. Measures should be taken

[1]*Some of the photographs (figures) included in this report were taken in 2006 during a previous structural assessment of the same property by Coffman Engineers. Conditions at the site were verified in 2019, and any previous photos that have been included have been determined to be relevant to this assessment.*

to strengthen the walls to mitigate this risk of collapse. Additionally, the roof supports should be further investigated to determine their capacity to support current and additional dead and live loads. The roof sheathing likely does not have sufficient capacity to transfer loads across the building. A new plywood diaphragm should replace the existing burned sheathing. The new diaphragm and the roof framing should be properly connected to the walls. This building may not have sufficient foundations, and it is most likely lacking proper anchorage to the foundations. Strengthened or new foundations may be required beneath the perimeter walls, and all walls should be properly anchored to the foundation. This building currently does not contain any interiors, such as partition walls or dropped ceilings. The addition of interiors will increase the overall building weight and may require further strengthening or additional supports.

The expected performance of the shed at the north side of this building is difficult to determine since the reinforcement of the walls and the time of construction are unknown. However, it is likely that the structure would require upgrades to the walls, roof, and foundation to fully resist lateral forces caused by a moderate earthquake.

Summary of Proposed Upgrades

The expected seismic performance of this building in its current condition is poor. The following rehabilitation methods, at a minimum, are required for the building to meet a Life Safety Structural Performance Level. We assume that all nonstructural items will be replaced with new systems; therefore, nonstructural performance has not been included in this report.

Lateral System: Shear Strength and Out-of-Plane Strength

- Shotcrete existing unreinforced masonry walls. Shotcrete would most likely be required on all walls. In order not to affect the appearance of the exterior elevations, shotcrete should be applied to the interior side of the walls. However, this would reduce the interior space of this small building. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the shotcrete. Once shotcrete is applied, the interior brick may no longer be visible.
- Surface coat the walls with fiber reinforced polymer (FRP). This option may be more efficient for providing protection of character-defining features while increasing performance and strength.
- Add vertical and horizontal steel strongbacks to the walls. In order not to affect the appearance of the exterior elevations, strongbacks should be applied to the interior side of the walls. With this method, anchors would need to be drilled into the masonry to properly connect the outside face to the strongbacks. The interior elevations of the walls would be interrupted by a network of steel tube framing.
- Upgrade foundations beneath the walls to resist overturning forces.
- Anchor the walls to the foundations.

Diaphragm

- Replace existing roof sheathing with plywood diaphragm.
- Install new steel anchors between walls and diaphragm. The anchors would most likely need to be installed no more than four feet apart, at the north and south walls.

General Condition

- Replace all roof members and sheathing damaged by fire or dry rot, or otherwise deteriorated.
- Check the connection of the roof framing to the walls and strengthen the connections if needed.
- Replace any deteriorated masonry.

Figure 1: South and east elevations showing exterior condition

Figure 2: North elevation, including shed

Figure 3: Roof framing and interior fire damage

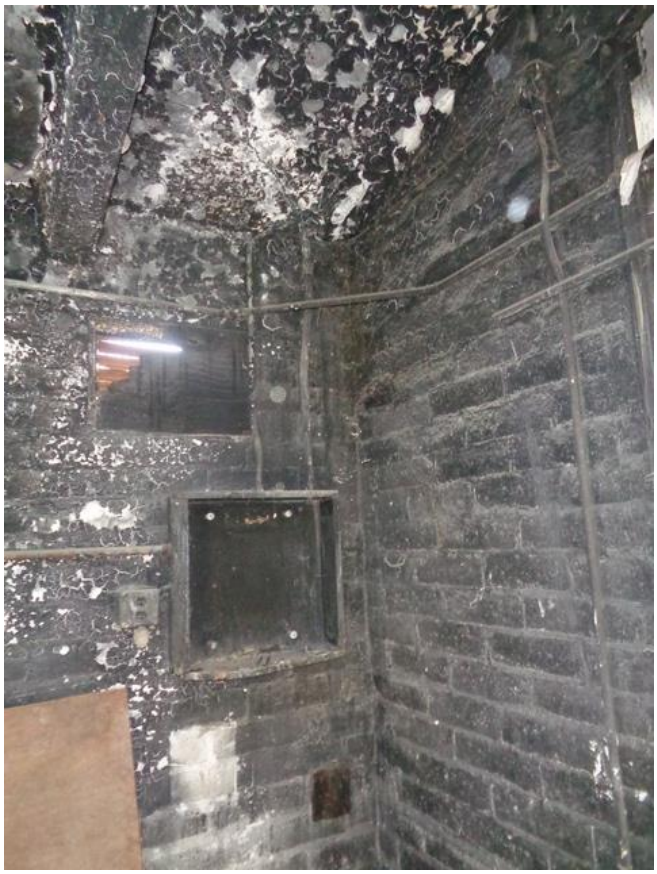


Figure 4: Interior fire damage

Figure 5: Deteriorated wood sheathing at shed

C LACO No. 1335 (Brooder House/ Vivarium Annex) – Preservation/Adaptive Reuse Cost Plan

MGAC

Feasibility Study Cost Plan

Brooder House/Vivarium Annex (LACO 1335)

MGAC

Feasibility Study Cost Plan — Brooder House/Vivarium Annex (LACO 1335)

			SF	$/SF	TOTAL $ x 1,000
B1	Brooder House/Vivarium Annex (LACO 1335)		342	327.49	112
SUB-TOTAL BUILDING CONSTRUCTION			342	327.49	112
S1	Sitework		3,000	48.00	144
	Premium for enhanced sustainable site features				4
SUB-TOTAL SITEWORK					148
TOTAL BUILDING AND SITEWORK					**260**
Escalation to Midpoint (Jul 2021)		11.7%			30
Owner Soft Costs					
	Site and Property Acquisition Costs	N/A			-
	Design and Engineering Consultant Services	8.0%			23
	Project Management Consultant Services	3.0%			9
	FF & E	5.8%			19
	Taxes and Indirect Fees	1.0%			3
	Building Permit and Other Agency Fees	1.5%			5
	Owner Contingency/Construction Contingency	25.0%			87
Recommended Budget					***436***

Feasibility Study Cost Plan — Brooder House/Vivarium Annex (LACO 1335) Areas

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 1	342		
TOTAL GROSS FLOOR AREA	**342**		**0**

Control Quantities				Ratio to GFA
Number of stories (x1,000)		1	EA	2.924
Gross Area		342	SF	1.000
Enclosed Area		342	SF	1.000
Covered Area		0	SF	-
Footprint Area		342	SF	1.000
Gross Wall Area		500	SF	1.462
Finished Wall Area		500	SF	1.462
Windows or Glazing	24%	120	SF	0.351
Roof Area - Flat		350	SF	1.023
Roof Area - Sloping		0	SF	-
Roof Area - Total		350	SF	1.023
Interior Partitions			LF	-
Finished Area		342	SF	1.000

Feasibility Study Cost Plan — Brooder House/Vivarium Annex (LACO 1335) Summary

Ref.	Description		%	$/SF	TOTAL $x1,000
			Gross Area:	342 SF	
A10	Foundations		8%	27.00	9
A20	Basement Construction		0%	0.00	0
A	Substructure		8%	27.00	9
B10	Superstructure		21%	69.30	24
B20	Exterior Enclosure		8%	27.27	9
B30	Roofing		7%	22.00	8
B	Shell		36%	118.57	41
C10	Interior Construction		1%	2.92	1
C20	Stairways		0%	0.00	0
C30	Interior Finishes		3%	10.00	3
C	Interiors		4%	12.92	4
D10	Conveying Systems		0%	0.00	0
D20	Plumbing Systems		5%	17.50	6
D30	Heating, Ventilation & Air Cond.		5%	15.00	5
D40	Fire Protection		2%	7.00	2
D50	Elect'l Lighting, Power & Comm.		8%	25.00	9
D	Services		20%	64.50	22
E10	Equipment		0%	0.00	0
E20	Furnishings		4%	13.16	5
E	Equipment & Furnishings		4%	13.16	5
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		6%	20.45	7
F	Special Construction & Demolition		6%	20.45	7
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			78%	256.60	88
Z10	Design Contingency	10.00%	8%	25.66	9
Z11	General Requirements	4.00%	3%	11.29	4
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			90%	293.55	100
Z21	General Conditions	6.00%	5%	17.61	6
Z22	Bonds & Insurance	1.50%	1%	4.67	2
Z23	Contractor's Overhead, Profit & Fee	3.75%	4%	11.84	4
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	327.68	112
Z30	See Overall Summary for Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET - January, 2020			100%	327.49	112

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Feasibility Study Cost Plan — Brooder House/Vivarium Annex (LACO 1335)

	Quantity	Unit	Rate	Total
A10 Foundations				
A1010 Standard Foundations				5,130
Foundation upgrade	342	SF	15.00	5,130
A1030 Slab On Grade				4,104
Patch/repair slab on grade including restoration of slabs affected by foundation upgrade and plumbing pipework, allow 40%	137	SF	30.00	4,104
				9,234
A20 Basement Construction				
				0
B10 Superstructure				
B1010 Floor Construction				16,000
Allow shotcrete to interior face of exterior walls	500	SF	32.00	16,000
Lightweight concrete topping, 1-1/2"				n/a
B1020 Roof Construction				7,700
New roof structure including roof sheathing	350	SF	22.00	7,700
				23,700
B20 Exterior Enclosure				
B2010 Exterior Walls				3,725
Remove paint, repoint masonry grout; seal masonry after cleaning and repair	200	SF	8.00	1,600
Painting to exterior walls	500	SF	3.00	1,500

	Quantity	Unit	Rate	Total
Painting to interior face of exterior walls (shotcrete area)	500	SF	1.25	625
Loose fill insulation				*n/a*
B2020 Exterior Windows				3,600
Steel wire mesh to vent opening	120	SF	30.00	3,600
B2030 Exterior Doors				2,000
Solid core wood doors including frames and hardware				
Double leaf	1	EA	2,000.00	2,000
				9,325
B30 Roofing				
B3010 Roof Coverings				7,525
New shingled roofing including insulation, flashing, roofing upstands, access and ventilation, caulking and sealants	350	SF	21.50	7,525
				7,525
C10 Interior Construction				
C1010 Partitions				
Patch/repair existing partitions, 20%				n/a
C1020 Interior Doors				
New wood doors including frames and hardware (1/500SF)				n/a
C1030 Fittings				1,000
Toilet partitions and accessories				
Code required signages, fire extinguisher cabinets, etc	1	LS	1,000.00	1,000
				1,000

	Quantity	Unit	Rate	Total
C20 Stairways				
				0
C30 Interior Finishes				
C3010 Wall Finishes				
Repair damaged wall plaster and repaint - interior partitions				*n/a*
Ceramic wall tiles to toilets				*n/a*
C3020 Floor Finishes				1,710
New floor finishes including base, concrete sealer	342	SF	5.00	1,710
Existing flooring to remain, allow for cleaning				*n/a*
C3030 Ceiling Finishes				1,710
Exposed ceiling, painted	342	SF	5.00	1,710
				3,420
D10 Conveying Systems				
				0
D20 Plumbing Systems				
Plumbing Systems	342	SF	17.50	5,985
				5,985

MGAC

Feasibility Study Cost Plan — Brooder House/Vivarium Annex (LACO 1335)

	Quantity	Unit	Rate	Total
D30 Heating, Ventilation & Air Cond.				
Heating, Ventilation and Air- conditioning	342	SF	15.00	5,130
				5,130
D40 Fire Protection				
Fire Protection System	342	SF	7.00	2,394
				2,394
D50 Elect'l Lighting, Power & Comm.				
Electrical, Lighting, Power and Communication	342	SF	25.00	8,550
Photovoltaic panels				*n/a*
				8,550
E10 Equipment				
				0
E20 Furnishings				
E2010 Fixed Furnishings				4,500
Cabinets, countertops shelving and millwork	1	LS	3,000.00	3,000
Lavatory countertop	1	LS	1,500.00	1,500
Window treatment, mechoshade, manual				*n/a*
Entrance mat				*n/a*
				4,500

	Quantity	Unit	Rate	Total
F10 Special Construction				
				0
F20 Selective Demolition				
F2010 Building Elements Demolition				4,430
Exterior windows/screens	120	SF	5.00	600
Doors	1	EA	200.00	200
Demo remove roofing including roof structure	350	SF	4.00	1,400
Demo hollow clay tile partitions, interior doors, floor, wall & ceiling finishes, built-in furnishing, toilet partition & accessories	342	SF	5.00	1,710
Allow for clearing/removal of storage debris	8	MH	65.00	520
F2020 Hazardous Components Abatement				2,565
Hazmat abatement - allowance	342	SF	7.50	2,565
				6,995

MGAC

Feasibility Study Cost Plan — Brooder House/Vivarium Annex (LACO 1335)

Item Description	Quantity	Unit	Rate	Total
1.) Sitework - Brooder House/Vivarium Annex (LACO 1335)				
Gross Site Area	3,300	SF		
Building footprint	342	SF		
Net Site Area	3,000	SF		
General site clearing, demo and remove paving/landscaping	3,000	SF	1.00	3,000
Site paving, site structures, fencing, landscaping & irrigation	1	LS	50,000.00	50,000
Premium for permeable paving	1	LS	20,000.00	20,000
Site lighting and drainage	1	LS	10,000.00	10,000
Site utilities	1	LS	30,000.00	30,000
Alternate Cost Before Markups				**113,000**
Z10 Design Contingency	10.00%			11,300
Z11 General Requirements	4.00%			4,972
Z21 General Conditions	6.00%			7,756
Z22 Bonds & Insurance	1.50%			2,055
Z23 Contractor's Overhead, Profit & Fee	3.75%			5,216
				144,299

D LACO No. 1335 (Brooder House/ Vivarium Annex) – Mothballing Report

Mothballing Plan for

RANCHO LOS AMIGOS, SOUTH CAMPUS
#1335 Brooder House

1. INTRODUCTION

This is a mothballing planning document (Mothballing Plan) prepared for the purpose of stabilizing and protecting the Brooder House (LACO #1335) on the South Campus of Rancho Los Amigos in Downey, California. The Staff Cottage building has been identified as an historical resource. However, the building has been vacant and may remain so for an unspecified period of time. This Mothballing Plan provides direction for protecting the integrity of the building and undertaking measures that are appropriate for unoccupied buildings. Mothballing describes a short-term goal, and not a long-term building rehabilitation. As discussed in the National Park Service's *Preservation Brief #31: Mothballing Historic Buildings (Preservation Brief #31)*, the steps that are entailed in the process of mothballing a building can protect buildings for periods of up to ten years. However, as also described in that publication, the long-term success of any mothballing endeavor, "will also depend on continued, although somewhat limited, monitoring and maintenance."[1] Mothballing will not provide the longer life cycle performance of a rehabilitation project since mothballing is intended to only serve as an interim measure to protect unused buildings until such time that a new use is found for them.

This Mothballing Plan provides criteria and recommendations from which to design, engineer, and execute a mothball project. Execution of the plan may require additional scoping, documentation, engineering, and shop drawings. This planning document is not a substitute for construction documents and specifications.

This Mothballing Plan is a part of the ESA Feasibility Study conducted in collaboration with SMS Architects, and the larger study of which this individual report is a part includes the building description and the statement of existing conditions (they may be found in the Architectural Condition Assessment report update for this particular building). The Feasibility Study also includes data that describes the location, narrative history, and significance of the property. The buildings on the property have deteriorated and changed in major respects since the previous 2008 project documentation.[2] The most notable damage to buildings on the property is due to the rainwater because the roofing, roof decks, and sheathing have failed in many locations. Additionally, some buildings on the property have sustained fire damage and are beyond mothballing.

The objective of the Mothballing Plan is to provide necessary information for the stabilization and protection of the existing spaces and features, without prejudice or further study of significance for the purpose of this plan. As previously noted, a separate Architectural Condition Assessment report update for Brooder House #1335 is provided as part of the Feasibility Study with additional information about the value and significance of specific features, materials, and finishes. However,

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1 Sharon C. Park, AIA, *Preservation Brief 31: Mothballing Historic Buildings* (Washington D.C.: National Park Service, 1993).

2 Sapphos Environmental, Inc., & Coffman Engineering, Inc. *Rancho Los Amigos Historic District Tier 4 Structural Engineering Assessment Report*. (Pasadena CA, 2008).

the information available through field observation and provided in the *Rancho Los Amigos South Campus, County of Los Angeles, City of Downey, California Historic District Report* prepared by ESA in July 2018 supply ample information for appropriate treatment recommendations for mothballing. The exceptions to the general intent to stabilize and protect existing materials features are (a) roofing materials and sheathing. Roofing materials and sheathing are so badly deteriorated that replacement in the service of a durable roof may be required.

The Mothballing Plan that follows, as presented below, is organized as a checklist that follows the format used by Historic Resources Group in a mothballing plan that was prepared for LACO 1238 dated August 16, 2017; the use of a checklist is also suggested in *Preservation Brief #31*, as it may help to ensure that work items are not inadvertently omitted.

Additional plans and building information that provide supplemental information for this Mothballing Plan can be found in the Architectural Condition Assessment report update for Brooder House (LACO #1335), as prepared by SMS Architects, which is part of the larger Feasibility Study for which this document also was prepared.

2. MOTHBALLING CHECKLIST

The Mothballing Plan that follows is organized as a checklist with a series of items that pertain to the building's stabilization, maintenance, pest control, housekeeping, security, utilities, ventilation, and periodic maintenance of the mothballed building. For each item in the checklist, a recommendation for the proper mothballing of the building is provided. Also included here are recommendations in regard to the periodic maintenance of the building once it is successfully mothballed.

Item#	Item	Recommendations
STABALIZATION		
ST-1	Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced.	Retain a State of California licensed Structural Engineer to observe the exterior and interior of the building and write a comment letter, and make recommendations, if necessary, for any further technical assessment for further action. It is noted that the objective of the Mothballing Plan is the building's stabilization for an undefined period of time not to exceed 10 years; the objective is not the building's ultimate rehabilitation to meet either current regular building standards or alternative standards

		under the 2013 California Historical Building Code (Title 24, Part 8). The performance standard of the Mothballing Plan is subject to being informed by a qualified engineer and meeting program goals and objectives for the structure.
MAINTENANCE		
M-1	Is the roof watertight?	The roof is severely deteriorated. All copper flashing has been vandalized and removed. The condition of the sheathing cannot be fully assessed without a full survey from the interior and exterior after removal of failing roof membranes. Initial observations show deterioration of structural members in some areas due to roof leakage. Closing holes in the roof deck/ sheathing and installation of an effective roof membrane is the most important action required to mothball the building. *Repair decking and sheathing as needed; add a temporary roof membrane, as specified by the Architect and/or licensed roofing contractor. Qualitatively, a composition roof shingle assembly and flashing are an acceptable approach for this purpose.*
M-2	Do the gutters retain their proper pitch and are they clean?	The gutters have deteriorated beyond repair and are missing or non- effective in all areas. Even though the local climate is semi-arid, with a short and highly variable rainy season, the current (2019) season demonstrates that extremely heavy and frequent rainfall occurs. In conjunction with a roofing project; provide a temporary metal drainage system that conducts rainwater to exterior grade. *For a short-term mothballing project, light gauge prefinished aluminum components are an acceptable alternative to a more durable construction system. Provide rain leader*

		extensions to take water away from the base of the building and to adjacent street drainage curbs and gutters, if practical.
M-3	Are downspout joints intact?	No
M-4	Are drains unobstructed?	No
M-5	Are windows and doors and their frames in good condition?	Many doors appear to have been previously replaced. Many doors are missing and badly damaged. Most door openings have exterior plywood board-ups, though some are loose or falling away. *Rather than evaluate, repair and restore frames, doors, and sash, install new fixed hard protection at the exterior of all openings. It is not the objective of the Mothballing Plan to repair or restore the existing doors and sash, but rather to protect the openings. Utilize the details illustrated in Figure 2, p. 71, and Figures 3. and 4., p. 72, of article in the appendix titled "Security Panels for the Foster-Armstrong House," by Thomas E. Solon.*
M-6	Are walls in good condition to seal out moisture?	Exterior masonry has some damaged areas. The walls have areas of moisture entering from the exterior and draining down the walls from many holes in the roof and may be subject to rising damp from standing water on adjacent interior floors. The building is in poor condition, due to being unprotected during a very wet rainy season. Any protection, even temporary tarping, would serve some good purpose in protecting the walls and windows from water damage. Practically speaking, very short-term emergency tarping and diversion of rain water will provide very little benefit for the remaining period of the current rainy season. A full mothballing treatment for the roof and roof drainage is badly needed prior to the next rainy season.

		The building walls will benefit from reduction of moisture in the building system prior to mothballing. One approach is to anticipate a drying out period for as long as possible during the coming dry season. Remove the roofing membrane, failed roofing decks/sheathing, and all board-ups, to allow maximum time for natural evaporation, and use large fans to promote circulation through the building during the dry-out.
M-7	Is exterior in good condition?	As the objectives of mothballing are short-term (less than 10 years), the current condition of the wood siding appears to be acceptable. *Individual areas may need patching to avoid water or pest intrusion.*
M-8	Is site properly graded for water run-off?	Refer to M-2 above.
M-9	Is vegetation cleared from around the building foundation to avoid trapping moisture?	No. There are areas of weeds growing in the area adjacent to the building due to the current rainy season. *Cut and remove grass and weeds down to grade and maintain at a close cut or permanently remove. Yard maintenance does not need to be frequent and can be in response to seasonal inspections.*
PEST CONTROLS		
P-1	Have nests/ pests been removed from the building's interior and eaves?	In the past, feral cats and other animals such as skunks and racoons were observed in this area. Reportedly, the cats are fed but are subject to standard and appropriate management practice with respect to neutering and ear clipping. These practices will help to control the population, although in a large vacant zone with a number of vacant buildings with exterior openings, it is unrealistic to expect that the population will be reduced to zero.

		SMS Architects did not observe nests and any other small mammals, birds, bees, or insects to the interior of the building or in the eaves. • *Continue best practices for management of the feral cat population.* • *Engage qualified pest and animal management specialists to inspect and apply best practices for the management of the skunk population.* • *Seal all openings in order to substantially eliminate small animals and pests from entering and nesting in the building.* • *Complete treatments and removals of small animals and pests prior to sealing all openings.*
P-2	Are adequate screens in place to guard against pests?	If doors are maintained and windows are sealed, as recommended, there will be no need for screens.
P-3	Has the building been inspected and treated for termites, carpenter ants, rodents, etc.?	SMS Architects has not been informed as to whether the building has been recently inspected and treated for termites, carpenter ants, rodents, etc. As part of a mothballing program, obtain a full building inspection by a licensed pest control inspector. *Perform treatment for insect and fungal infestations as recommended. Periodic fumigation for termite infestation (e.g. every 7 years) is a good standard of practice for historic buildings in order to slow the loss of the integrity of original materials.*
P-4	If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?	Utilize qualified staff or retain a qualified company to determine if toxic droppings are present, and to make recommendations for abatement and to abate.
HOUSEKEEPING		
H-1	Is the interior broom-clean?	No.

		After removing all items from the interior, remove building material debris (e.g. plaster, lath, paint chips) and sweep the floors broom-clean. Protocol of removing potential hazardous waste/ materials will need to be implemented.
H-4	If furnishing are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems?	Any existing furniture has been damaged beyond repair and is now considered debris; *it should be removed with other building material debris as described in Item H-1*.
H-5	Have significant architectural elements that have become detached from the building been labeled and stored in a safe place?	No detached significant architectural elements were observed. *No work is recommended*
H-6	Is there a building file?	There are some available plans, elevations and other documents that document the subject property that are included in the appendices for the Mothballing Plan. There may be additional building files that are pertinent to the subject property that are in possession of the owner, the County of Los Angeles. *It is recommended that building management and maintenance services maintain a digital folder of all documents and reports. The file should include but is not limited to:* • *Mothballing plan* • *DPR forms, photographs, historic assessment reports, and drawings* • *Maintenance checklist reports of periodic inspections and observations* • *Copies of work orders and contracts for all work at the building* • *Incident reports of break-ins,*

		vandalism, fire alarms, security alarms, accidents
SECURITY		
S-1	Have fire and police departments been notified that the building will be mothballed?	SMS Architects' access to the subject property demonstrated that while there has been damage and vandalism over time, there is currently a high level of security and care in place. Considerable advance notice was required in order to schedule County staff to open the buildings under study; County staff remained on site during our field work and secured the buildings after we left. The perimeter of the subject property is marked by tall woven wire fences and locked gates. *It is recommended that the responsible Sheriff, Fire, and EMT officers be invited to the building for an annual inspection to inform RLA management of any risks and make recommendations for risk reduction, if necessary, and to inform the responders of the historic value of the property discuss any preferred alternatives in terms entf'½ fire, and rescue.*
S-2	Are smoke and fire detectors in working order?	No detectors were observed. *Install several smoke and fire detectors as recommended by a life-safety engineer or licensed contractor at the major interior spaces. Alarms should be audible locally, and shall report a signal to a central station that automatically notifies the fire department* *Install manual fire extinguishers attached to*

		the exterior of the building at each personnel door. Maintain the fire extinguishers at least once per year.
S-3	Are the exterior doors and windows securely fastened?	No. Some windows are broken and not fully boarded. Some door openings are not fully boarded. *Refer to the opening protection recommendations at MR5 above.*
S-4	Are plans in place to monitor the building on a regular basis?	Sheriff has been observed patrolling the South Campus during each visit. *Sheriff and/or RLA security should continue to observe the buildings frequently.*
S-5	Are the keys to the building in a secure but accessible location?	*Maintain keys at secure and accessible location.* *Assign a duty officer who is on site and/or accessible 24/7. Duty officer is on call and is on the call list when fir smoke/ and security alarms are activated and is contacted for any incidents. Duty officers should hold keys and security device codes 24/7.*
S-6	Are the grounds being kept from becoming overgrown?	No; there is considerable plant overgrowth surrounding the building. *Refer to the recommendations for landscape maintenance above.*
UTILITIES		
U-1	Have utility companies disconnected/shut off or fully inspected water, gas, and	Yes. County staff stated that all utility services are shut off outside the buildings.

	electric lines?	*No action required*
U-2	If the building will not remain heated, have water pipes been drained and glycol added?	No. The climate is temperate; there is no hard freeze at the site. There are no functioning plumbing systems, fixtures, and equipment. *No action required*
U-3	If the electricity is to be left on, is the wiring in safe condition?	*Refer to U-1.*
VENTILATION		
V-1	Have steps been taken to ensure proper ventilation of the building?	No. *Refer to the recommendations for ventilated board-ups, and Appendix D.*
V-2	Have interior doors been left open for ventilation purposes?	There are few interior doors; the doors we observed were open/ damaged or missing. *No work is recommended*
V-3	Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?	Yes. *Refer to Maintenance Checklist*
PERIODIC MAINTENANCE		
PM-1	At 3 months (quarterly) minimum	• regular drive by surveillance • check entrances • check window panes for breakage • pull weeds • check for graffiti or vandalism • check for moisture damage • check any battery packs and monitoring equipment • check for evidence of pest intrusion,

		feral cats, skunks, and birds • check and update building file; submit action plan for response to observations
PM-2	Every 6 months; spring and fall	• site debris clean-up, if any • clean any debris and organic material (leaves, etc.) • check and update building file; submit action plan for response to observations
PM-3	Every 12 months	• check roof for loose or missing components, cracks, and failures • termite and pest inspection/treatment as recommended by assigned staff or consultant inspectors. • exterior materials spot repair and touch up painting remove bird droppings or other stains from exterior • check and update building file; submit action plan for response to observations

IMAGE #	DESCRIPTION	Overview of General and Typical As-found Conditions March 2019
1	Southeast corner.	
2	Interior	
3	North concrete pad and site condition.	

E LACO No. 1335 (Brooder House/ Vivarium Annex) – Mothballing Cost Plan

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Mothballing Cost Plan

Brooder House/Vivarium Annex (LACO 1335)

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Mothballing Cost Plan — Brooder House/Vivarium Annex (LACO 1335)

			SF	$/SF	TOTAL $ x 1,000
B1	Brooder House/Vivarium Annex (LACO 1335)		342	93.57	32
TOTAL BUILDING CONSTRUCTION			342	93.57	32
S1	Sitework				*incl*
TOTAL BUILDING AND SITEWORK					**32**
Escalation to Midpoint (Jul 2021)		11.7%			4
Owner Soft Costs					
	Site and Property Acquisition Costs				*n/a*
	Design and Engineering Consultant Services	4.0%			1
	Project Management Consultant Services	2.0%			1
	FF & E	0.0%			*n/a*
	Taxes and Indirect Fees	1.0%			1
	Building Permit and Other Agency Fees	1.5%			1
	Owner Contingency/Construction Contingency	10.0%			4
Recommended Budget					***44***

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Mothballing Cost Plan — Brooder House/Vivarium Annex (LACO 1335)

Item Description	Quantity	Unit	Rate	Total
1.) Brooder House/Vivarium Annex (LACO 1335)				
No of floors	***1***	***EA***		
Gross Floor Area	***342***	***SF***		
Gross Wall Area	***500***	***SF***		
Roof Area	***350***	***SF***		
Windows Area	***120***	***SF***		
Gross Site Area	***3,300***	***SF***		
Building footprint	***342***	***SF***		
Net Site Area	***3,000***	***SF***		
Stabilized structure	342	SF	5.00	1,710
Repaint exterior walls	500	SF	2.00	1,000
Protect existing openings (exterior doors)	2	EA	800.00	1,600
Install hard protection/boarding to windows	120	SF	25.00	3,000
Seal all openings to eliminate small animals and pests from entering and nesting in the building	500	SF	2.00	1,000
Repair deck as needed, remove existing roofing system, provide temporary roofing system including drainage	350	SF	12.00	4,200
Termites, ants, rodents etc - inspection and allowance for treatment	342	SF	1.00	342
Install smoke & fire detectors	342	SF	1.00	342
Provide battery power supply for fire alarm system	1	LS	7,500.00	7,500
Provide alarm audible locally and wireless signal transmitter to central station	1	LS	2,000.00	2,000
Shut off valves/capped utilities				*n/a*
Fire extinguishers	1	EA	275.00	275
Remove debris and broom clean	342	SF	0.75	257
Clear site of weeds and overgrown trees	3,000	SF	0.50	1,500
Hazmat inspection/abatement				*excluded*
Alternate Cost Before Markups				**24,726**
Z10 Design Contingency	15.00%			3,709
Z11 General Requirements	3.00%			853
Z21 General Conditions	3.00%			879
Z22 Bonds & Insurance	1.50%			452
Z23 Contractor's Overhead, Profit & Fee	3.75%			1,148
				31,767

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Appendix A
Professional Qualifications

Gabrielle Harlan, Ph.D.

Architectural Historian

EDUCATION

Doctor of Philosophy, History of Art and Architecture, University of Virginia

Master of Arts, Architectural History, University of Virginia

Bachelor of Architecture, University of Arizona

20 YEARS OF EXPERIENCE

AWARDS

Andrew Mellon Foundation Fellowship Recipient, Huntington Library, San Marino, California, 2010

Helen Bing Fellowship Recipient, Huntington Library, San Marino, California, 2010

Du Pont Fellowship Recipient, University of Virginia, Charlottesville, Virginia, 2005

William Rucker Art and Architecture Fellowship Recipient and Du Pont Fellowship Recipient, University of Virginia, Charlottesville, Virginia, 2004

Dean's Forum Fellowship Recipient, University of Virginia, Charlottesville, Virginia, 2003

Arizona Women in Construction Scholarship Recipient, University of Arizona, Tucson, Arizona, 1994

Gabrielle is a senior architectural historian with more than 20 years of academic and professional experience preparing documentation to address the restoration, rehabilitation, and adaptive reuse of historic properties—including historic structures reports, preservation and interpretation plans, and National Register of Historic Places nominations. Gabrielle also has experience contributing to California Environmental Quality Act (CEQA)-level documents. She has worked primarily in California for the last ten years, and she continues to expand upon her knowledge of Southern California history by conducting primary source research and developing historic contexts.

Relevant Experience

Long Beach Airport (LGB) Terminal Phase II Improvements, Los Angeles County, CA. *Architectural Historian*. LGB is proposing improvements to the terminal building and related facilities in order to accommodate recent increases in flight activity and to improve the passenger experience through a variety of terminal, security, and parking improvements. The Federal Aviation Administration (FAA) is the lead federal agency charged with conducting Section 106. In support of this project, ESA conducted an archaeological and historic resources inventory and evaluation for LGB. In collaboration with an ESA staff archeologist, Gabrielle prepared a Historic Properties Inventory Report that documented historic properties and potential adverse effects resulting from the project.

Hollywood Burbank Airport Replacement Terminal EIS, Los Angeles County, CA. *Architectural Historian*. The Burbank-Glendale-Pasadena Airport Authority (Authority) is proposing to replace the existing passenger terminal to enhance airport safety and meet ADA standards, to consolidate passenger and baggage screening functions, and to provide a new, modern, energy-efficient passenger terminal. The project would replace the existing 14-gate, 232,000-square-foot passenger terminal with a 14-gate passenger terminal that meets current California seismic design and FAA airport design standards. The replacement passenger terminal would be developed in accordance with modern design standards to provide enhanced passenger amenities; security screening facilities that meet the latest TSA requirements; and other airport facilities (including holdrooms, baggage claim areas, and public areas) that are designed and sized for the kinds of aircraft the airlines routinely operate. Gabrielle is the architectural historian for the project, and is providing peer review of historic resources reports to ensure they meet Section 106 requirements. She will also co-author the cultural resources section of the EIS, and analyze effects to historic architectural resources.

National Historic Landmark Ahwahnee Hotel Comprehensive Rehabilitation Project in Yosemite National Park, CA. *Historical Architect.* The project entailed addressing seismic issues, ADA accessibility, and fire life safety concerns. Gabrielle's responsibilities on the project included working as a primary reviewer of all architectural planning documents for the project (including the schematic and design development drawings, an HSR, and an HFR) in order to minimize adverse effects to this National Historic Landmark and to make an assessment of effect in compliance with Section 106 of the National Historic Preservation Act.

Hollywood Historic Resources Survey for the Los Angeles Community Redevelopment Agency, Los Angeles, CA. *Architectural Historian.* This project was to survey potential historic resources in the entire Hollywood area and to prepare historic context statements for the wide variety of property types that exist there, from film studios, to music production studios, to large multiple-unit dwellings, and to small-scale domestic architecture. Gabrielle's primary responsibility on the project was to research and write multiple historic context statements for different property types, as well as to edit and oversee the preparation of other historic context statements by junior staff.

Historical Resource Assessment for Mariners' Medical Arts Building, Newport Beach, CA. *Architectural Historian.* This project for the City of Newport Beach established the historic significance of a medical office building complex designed by architect Richard Neutra in the early 1960s. Gabrielle was responsible for writing the historic context and a majority of the historic research effort, as well as for directing and supervising junior staff in archival research tasks and the production of the final document.

Update to Historic Structures Report for Hollyhock House and Historic Structures Report for the Director's House at the National Historic Landmark Barnsdall Art Park for the City of Los Angeles, Los Angeles, CA. *Architectural Historian.* The City of Los Angeles owns and manages these buildings designed by master architect Frank Lloyd Wright. Gabrielle's responsibilities as a project manager entailed working in collaboration with another Los Angeles-based firm to prepare HSRs for two buildings, Hollyhock House and the Director's House. Both HSRs required extensive primary historic research, detailed condition assessments, and the identification and engagement of appropriate sub-consultants, such as a structural engineer well-versed in approaches to historic preservation, a forensic water infiltration specialist, a materials conservator, and an historic fountain specialist.

Rehabilitation and Reconstruction of Bob's Big Boy Broiler for the City of Downey, Los Angeles County, CA. *Architectural Historian.* This project entailed assisting the City of Downey in identifying the remaining historic features of a 1950s Googie coffee shop, which had been subject to an illegal partial demolition. Gabrielle's responsibilities as a project manager were to identify and document extant character-defining features of the building, to provide design collaboration for a successful rehabilitation project, and to assist in the negotiation of a Memorandum of Understanding between the city and the California Office of Historic Preservation. In 2010, the Los Angeles Conservancy awarded the project team it's top honor, the President's Preservation Award.

Victor Clothing Company Building, Los Angeles, CA. *Architectural Historian.* This project was to assist the owner of an early twentieth-century commercial mid-rise building located in downtown Los Angeles in developing a successful approach for historic restoration of the façade, interior commercial space, and elevator lobby in order to comply with the terms for final approval of a Historic Preservation Certification Application necessary for the property owner to take advantage of available federal tax incentives. Gabrielle's responsibilities as project manager were to gather research, to coordinate the work of sub-consultants, to consult with the California Office of Historic Preservation, and to prepare the required documentation for the certification process.

Multiple Property Document Nomination to the National Register of Historic Places for the City of Casa Grande, Pinal County, AZ. *Architectural Historian.* This project was to identify for the City of Casa Grande a concentrated and cohesive area of historic properties eligible for nomination to the national Register of historic Places as supported by a single historic context submitted as part of a Multiple Property Documentation Form. Gabrielle's responsibilities as project manager included surveying properties as part of a two-person team, writing the historic context statement and property type descriptions, and preparing the nominations forms for twenty-three properties successfully nominated in 2002 to the National Register of Historic Places.

Margarita Jerabek, Ph.D.

Director, Historic Resources

EDUCATION

Ph.D., Art History, University of California, Los Angeles

M.A., Architectural History, School of Architecture, University of Virginia, Charlottesville

Certificate of Historic Preservation, School of Architecture, University of Virginia, Charlottesville

B.A., Art History, Oberlin College, Oberlin, Ohio

30 YEARS EXPERIENCE

AWARDS

2014 Preservation Award, The Dunbar Hotel, L.A. Conservancy

2014 Westside Prize, The Dunbar Hotel, Westside Urban Forum,

2014 Design Award: Tongva Park & Ken Genser Square, Westside Urban Forum

California Preservation Design Award, Queen Mary Conservation Management Plan (2012), and Home Savings, Montebello (2016), California Preservation Foundation

Dr. Margarita Jerabek has 30 years of experience in professional practice in the United States with an extensive background in historic preservation, architectural history, art history and decorative arts, and historical archaeology. She specializes in Visual Art and Culture, 19th-20th Century American Architecture, Modern and Contemporary Architecture, Architectural Theory and Criticism, Urbanism, and Cultural Landscape, and is a regional expert on Southern California architecture. Her qualifications and experience meet and exceed the Secretary of the Interior's Professional Qualification Standards in History, Archaeology, and Architectural History. She has managed and conducted a wide range of technical studies in support of environmental compliance projects, developed preservation and conservation plans, and implemented preservation treatment projects for public and private clients in California and throughout the United States.

Dr. Jerabek has prepared a broad range of environmental documentation and conducted preservation projects throughout the Los Angeles metropolitan area and Southern California counties. She provides expert assistance to public agencies and private clients in environmental review, from due diligence through planning/design review and permitting and when necessary, implements mitigation and preservation treatment measures on behalf of her clients. As primary investigator and author of hundreds of technical reports, plan review documents, preservation and conservation plans, HABS/HAER/HALS reports, construction monitoring reports, salvage reports and relocation plans, she is a highly experienced practitioner and expert in addressing historical resources issues while supporting and balancing project goals.

She is an expert in the evaluation, management and treatment of historic properties for compliance with Sections 106 and 110 of the NHPA, NEPA, Section 4(f) of the Department of Transportation Act, CEQA, and local ordinances and planning requirements. Dr. Jerabek regularly performs assessments to ensure conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, and assists clients with adaptive reuse/rehabilitation projects by providing preservation design and treatment consultation, agency coordination, legally defensible documentation, construction monitoring and conservation treatment.

She is a regional expert on Southern California architecture. She has prepared a broad range of environmental documentation and conducted preservation projects throughout the Los Angeles metropolitan area as well as in Ventura, Orange, Riverside, San Bernardino and San Diego counties. Beyond her technical skill, Dr. Jerabek is a highly experienced project manager with broad national experience throughout the United States.

Selected Project Experience

Long Beach Unified School District, Long Beach Unified School District District-wide Cultural Resources Assessment, Long Beach, CA. *Project Manager.* District-wide cultural resources survey of historical, archaeological and paleontological resources. The survey identified and evaluated historical resources, and analyzed the potential sensitivity of school sites for archaeological and paleontological resources. Managed research, oversaw development of historic context and architectural descriptions for schools, and survey database. Based upon the survey results, developed a district-wide cultural resources preservation program. This included preservation maintenance, repair and treatment plan to reduce potential impacts to historical resources that would result from implementation of the LBUSD Measure K projects. The plan included CEQA thresholds, impacts analysis for LBUSD Measure K projects, mitigation measures, and design guidelines to assist architects in the design and development of proposed projects to avoid and/or reduce potential impacts. The historic preservation plan provides overall guidance to assist the District throughout the design and development process in minimizing adverse impacts to historic properties and cultural resources.

City of Long Beach, Survey of Fine and Decorative Arts Aboard the HMS Queen Mary, Long Beach, CA. *Project Manager.* Comprehensive survey of fine and decorative arts objects, maritime hardware, furniture and built-ins aboard the RMS Queen Mary. Developed survey methods and database design, oversaw art historical and maritime history research, database management, and co-authored and edited the report.

City of Los Angeles Community Redevelopment Agency, Intensive Historic Resources Survey, Normandie 5 Redevelopment Area, Los Angeles, CA. *Project Manager.* Comprehensive reconnaissance and intensive-level survey of the Normandie 5 Redevelopment Area. The survey was prepared using the NPS Multiple Property Approach and was conducted in accordance with *SurveyLA* methods and technologies.

City of Los Angeles Community Redevelopment Agency, Intensive Historic Resources Survey, Adelante-Eastside Redevelopment Area, Los Angeles, CA. *Project Manager.* Comprehensive reconnaissance and intensive-level surveys of the Adelante-Eastside Redevelopment Area. The survey was prepared using the NPS Multiple Property Approach and was conducted in accordance with *SurveyLA* methods and technologies.

City of Los Angeles Community Redevelopment Agency, Intensive Historic Resources Survey, Wilshire/KoreaTown Redevelopment Area, Los Angeles, CA. *Project Manager.* Comprehensive reconnaissance and intensive-level surveys of the Wilshire/KoreaTown Redevelopment Area. Utilized tablet PCs to collect survey data, conducted contextual and property research, prepared architectural descriptions, completed inventory database input for DPR forms and was a contributing author for the survey report. The survey was prepared using the NPS Multiple Property Approach and was conducted in accordance with *SurveyLA* methods and technologies.

Jessie Fan

Senior Associate II

EDUCATION

MS, Environmental Analysis and Decision Making, Rice University

BS, Environmental Science, University of California, Los Angeles

3 YEARS OF EXPERIENCE

CERTIFICATIONS/ REGISTRATION

Envision Sustainability Professional (ENV-SP)

International Society of Sustainability Professionals – Sustainability Associate (ISSP-SA)

Jessie is an environmental planner with experience in environmental analysis documentations and compliance. She has expertise in a variety of areas, including geology, hydrology, land use, population/housing, water supply, wastewater, solid waste, sustainability, and emission reduction strategies. She has worked on a diverse set of project types, including mixed-use development and institutional/campus master plans and expansion. She has prepared and managed all levels of CEQA documentation, ranging from Environmental Assessment Forms (EAFs) and Initial Studies (IS) to Environmental Impact Reports (EIRs) and Mitigated Negative Declarations (MNDs). Jessie also provides support to the Air Quality and Greenhouse Gas Division, including preparation of Environmental Leadership Development Project applications and research for sustainability plans.

Project Experience

670 Mesquit Street EIR, Los Angeles, CA. *Deputy Project Manager.* Jessie serves as a Deputy Project Manager in the preparation of an EIR for the 670 Mesquit Street project in the City of Los Angeles. Jessie was responsible for preparing and peer-reviewing the Initial Study. The proposed project would develop a mixed-use development totaling 1,792,103 square feet of floor area and would include creative office space (approx. 944,055 sf); 308 multi-family residential units, 16 percent of which would be affordable units; hotel (236 rooms); and retail (including grocery and farmer's market); restaurant; studio, event, gallery and potential museum space; and a gym. The Project would also include at- and above-grade landscaped open space totaling 83,789 sf, four (4) levels of below grade parking spanning the Project Site, and at and above grade parking within Buildings 3, 4, and 5. The Project would provide approximately 2,000 parking spaces and 930 bicycle parking spaces.

Hollywood Center Project EIR, City of Los Angeles, CA. *Deputy Project Manager.* Jessie serves as a Deputy Project Manager in the preparation of an EIR for the Hollywood Center Project in the City of Los Angeles. Jessie is responsible for preparing and reviewing multiple sections of the EIR, as well as coordinating and communicating with the internal and external teams on budgets, schedules, and deliverables. The Project would redevelop the area surrounding the preserved Capital Records Complex. The project proposes four new buildings, including a 35-story building, a 46-story building, and two 11-story buildings. The project would include 1,005 residential housing units (market-rate units and senior affordable units), retail and restaurant uses, parking, and open space and amenities, including a public paseo and plazas.

Times Mirror Square Project EIR, Los Angeles, CA. *Deputy Project Manager*. Jessie serves as a Deputy Project Manager in the preparation of an EIR for the

Times Mirror Square Project in the City of Los Angeles. Jessie was responsible for preparing and reviewing multiple sections of the EIR, as well as coordinating and communicating with the internal and external teams on deliverables and information requests. The Project includes the development of two mixed-use residential towers and the rehabilitation of the historic Los Angeles Times structures on a 3.6-acre city block within the Center City/Historic Core District of Downtown Los Angeles. The Project would retain and renovate the Times, Plant, and Mirror Buildings to provide approximately 376,105 sf of offices and/or other retail and commercial uses, including an approximately 50,000 sf grocery store. The Project's 37-story North Tower and 53-story South Tower mixed-use components would be constructed on the west side of the project site in the areas currently occupied by the 6-story Executive Building and a parking structure. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units and would include approximately 34,572 sf of retail uses, which would be located at ground level.

Rancho Los Amigos South Campus Project, Downey, CA. *Deputy Project Manager.* The County proposes redevelopment of a portion of the Rancho Los Amigos (RLA) South Campus which is located in the City of Downey. The 74-acre RLA South Campus was the home of the "Los Angeles County Poor Farm" that was established in 1880s to provide room and board to indigent citizens in exchange for agricultural labor, then served as an infirmary and later evolved into a hospital facility in 1932. The RLA South Campus functioned as a major hospital complex from 1956 to the 1990s, when it was abandoned. The RLA South Campus is currently unoccupied and has been designated as the RLA Historic District in the National Register of Historic Places. The County is proposing redevelopment of a 21-acre portion of the RLA South Campus with County uses, including a Sheriff's Station Crime Laboratory, Internal Services Department Headquarters, and Probation Department Headquarters. The project will include supporting parking and installation of utilities and other features on a site that has been abandoned for nearly 30 years. Building demolition and/or repurposing or relocation of existing buildings will be required. ESA is leading the CEQA process on behalf of the County, including preparation of all technical studies in support of a full-scope EIR for the RLA South Campus Project. This includes a Historic District Evaluation, archaeological surveys, traffic, water supply, arborist services, and all other CEQA-required topics. ESA is also serving in an Executive Consultant role to the County, to advise on other potential future projects at the RLA Campus.

Pacific Square San Gabriel Mixed-Use Project EIR, San Gabriel, CA. *Deputy Project Manager.* Jessie serves as a Deputy Project Manager in the preparation of an EIR for the Pacific Square San Gabriel Mixed-Use Project EIR in the City of San Gabriel. Jessie was responsible for scoping the EIR and preparing and reviewing multiple sections of the EIR, as well as coordinating and communicating with the internal and external teams on deliverables and information requests. The Project would develop 243 residential units and 79,987 square feet of commercial uses on a 5.85-acre site across two plazas. The two plazas would be connected by the publicly accessible 35,150 square-foot Central Park and 23,900 square-foot Plaza with expansive landscaping and outdoor seating areas.

Charles E. Smith, AICP, LEED AP BD+C

Principal Associate

EDUCATION

MPl, Urban and Regional Planning, University of Southern California

BS, Business Administration, University of Southern California

25 YEARS OF EXPERIENCE

CERTIFICATIONS/ REGISTRATION

American Institute of Certified Planners, No. 011766

LEED AP BD+C, US Green Building Council

PROFESSIONAL AFFILIATIONS

USC Price School Alumni Association Board of Directors

American Planning Association - Orange Section

US Green Building Council

Urban Land Institute

AWARDS

Planner Emeritus Network (PEN) Award of Honor, American Planning Association (APA) California

ICF Environment & Planning Division, Q1 2015 Project of the Quarter - LAC+USC Medical Center Master Plan EIR - Los Angeles County CEO and Department of Public Works

Charles Smith, AICP, LEED AP BD+C, has over 25 years of experience in environmental impact assessment services for public works infrastructure and development projects. He has held leadership roles in project/program management, operations management, business development, and corporate programs in education/professional development. Charles' professional interests include CEQA/NEPA compliance, land use planning, sustainable development, and historic preservation, with a geographic focus on Southern California and the western U.S. He has extensive experience managing large as-needed contracts for public agencies.

Charles serves on the Board of Directors for the American Planning Association (APA) Orange Section, as well as for the USC Price School Alumni Association, where he also volunteers as a student mentor. Charles maintains professional certifications with the American Institute of Certified Planners (AICP) and US Green Building Council (USGBC).

Relevant Experience

Program Management / On-Call Services / Master Service Agreements

Los Angeles County Department of Public Works, Programs Development Division, On-Call Environmental Services for Federally-Funded Contracts, Los Angeles County, CA. *Task Order Manager.* Charles will provide CEQA/NEPA services for a $3.5M master service agreement with the Los Angeles County Department of Public Works, Programs Development Division, for federally-funded projects. The contract was executed in May 2018. Services include CEQA/NEPA documentation, permit compliance, mitigation, and community outreach.

Los Angeles County Department of Public Works, Programs Development Division, On-Call Environmental Services, Los Angeles County, CA. *Supervisor/Administrator.* Charles managed as-needed environmental services under multiple on-call contracts with the Los Angeles County Department of Public Works, Programs Development Division from 2009-2018. The scope of work comprised document preparation in accordance with CEQA and NEPA; field, literature, and electronic database reviews; technical studies; public meeting support; and regulatory permitting activities including preparation of permit applications, field activities, and regulatory agency coordination. Task orders included EIRs for the County of Los Angeles Bicycle Master Plan, Hacienda/Gale

intersection in Hacienda Heights, and Peck Road Bridge in the San Gabriel Valley, along with numerous natural resources- and cultural resources-related technical studies and field surveys/monitoring activities.

Charles also managed a previous contract from 2002-2004. Projects under that contract included CEQA/NEPA IS/EAs for FEMA seismic strengthening projects at Big Tujunga Dam, Thompson Creek Dam, and Puddingstone Diversion Dam; and an EA for the Second Los Angeles Aqueduct. Charles also served as Assistant Project Manager for the Los Angeles County Drainage Area EIR, which involved the construction of parapet walls along portions of the Rio Hondo Channel and lower Los Angeles River.

Los Angeles County Department of Public Works, Project Management I & II Divisions, On-Call Environmental Services, Los Angeles County, CA.
Supervisor/Administrator. Charles managed the as-needed environmental services under an on-call contract with the Los Angeles County Department of Public Works, Project Management I & II Divisions from 2015-2018. The scope of work comprised document preparation in accordance with CEQA and NEPA; field, literature, and electronic database reviews; technical studies; public meeting support; and regulatory permitting activities including preparation of permit applications, field activities, and regulatory agency coordination. Projects principally involved vertical development, and included health care facilities, green infrastructure, a sheriff station, and biological and cultural resources studies.

Los Angeles County Department of Public Works, Flood Maintenance Division, On-Call Environmental Services, Los Angeles County, CA. *Supervisor/ Administrator.* Charles managed as-needed environmental services under an on-call contract with the Los Angeles County Department of Public Works, Flood Maintenance Division from 2009-2011. The scope of work comprised natural resources and cultural resources surveys and monitoring, technical studies, and regulatory permitting activities. Task orders included three years of pre- and post-maintenance biological surveys of 161 debris basins in Los Angeles County; archaeological and biological resources surveys associated with post-burn activities on the Angeles National Forest; and water quality monitoring, sampling, and data analysis for a local lake.

Los Angeles Department of Water and Power, On-Call Environmental Services, Los Angeles, CA. *Project Director.* Charles was responsible for overall client satisfaction, budget, schedule and quality control, and staffing for multiple $1.5M on-call environmental services contracts with LADWP. He successfully managed over 20 task orders between 2006 and 2009 that addressed a broad range of projects, including water resources, energy, coastal/land use permitting, restoration plans, and land management. Projects included technical studies for the Scattergood-Olympic electrical transmission line, a CEQA IS for Owens Gorge, and various biological and cultural resources studies. Under two prior contracts, Charles managed over 25 task orders including a water pipeline along Mulholland Drive, an electrical transmission line in the Mojave Desert, and various projects along the Los Angeles Aqueduct.

Orange County Public Works, On-Call Environmental Services, Orange County, CA. *Project Director.* Charles was responsible for overall client satisfaction, budget, schedule and quality control, and staffing for a multi-year on-call environmental services contract with Orange County Public Works. Serving the contract from 2016-2018, he collaborated with key staff to drive new task order sales and maintain a strong client relationship. Services have included CEQA documentation, biological

resources, water resources, and regulatory permitting for various water infrastructure projects.

Los Angeles World Airports, As-Needed Environmental Services, Los Angeles, CA. *Task Order Manager.* Charles will provide CEQA/NEPA services for a $2.0M master service agreement with Los Angeles World Airports (LAWA). The contract was executed in April 2018, and will provide support for projects at Los Angeles International Airport (LAX) and at other LAWA facilities.

California State University System, On-Call CEQA Services, Statewide California. *Project Director.* Charles managed an on-call CEQA services contract with the California State University Office of the Chancellor. This contract was established to provide CEQA services to all CSU campuses statewide on an as-needed basis. Charles led a task order proposal to update the CSU CEQA Handbook and to provide CEQA training in both live and webinar formats to CSU facilities staff.

Appendix B
Character-Defining Features Analysis Memorandum (June 20,2018)

ESA

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memorandum

date	June 20, 2018
to	County of Los Angeles Department of Public Works, Rancho Los Amigos Team
cc	Hannah Chen, County of Los Angeles CEO
from	Margarita Jerabek and Addie Farrell, ESA
subject	Character Defining Features Analysis for Rancho Los Amigos South Campus, Downey, Los Angeles County, California

Introduction

The following documentation presents a Character-Defining Features analysis for the Rancho Los Amigos Historic District (District) in support of the Environmental Impact Report (EIR) being prepared by the County of Los Angeles Department of Public Works (County) for the Rancho Los Amigos South Campus Project (proposed Project). This analysis is necessary to define the physical characteristics of the District that convey its historic significance so that the potential impacts to historical resources may be properly analyzed in the EIR. It also assists in the development of alternatives to the Project that would reduce impacts to historical resources.

This memo summarizes previous survey findings and provides a brief historic overview and statement of significance for the District. It then presents the methodology used for the character-defining features analysis, provides as summary of ESA's survey findings, and describes the Character-Defining features of the District.

Previous Surveys and Evaluations

The District has been previously evaluated three times: in 1995, 2004, and 2007. The District was determined eligible through the Section 106 process in 1995 and is listed in the California Register. The District was originally recorded in 1995 by HRG and determined eligible for the National Register under Criterion A, for its association with events that have made a significant contribution to the broad patterns of history, through the Section 106 process, by a consensus among the County, the Federal Emergency Management Act (FEMA), the State Office of Historic Preservation (OHP), and the Advisory Council for Historic Preservation (Advisory Council). HRG identified 76 contributors and determined the District eligible for the National Register of Historic Places (National Register) under Criterion A and for the California Register of Historical Resources (California Register) under Criterion 1. With this determination of eligibility, the District was listed in the California Register for its association with events that

have made a significant contribution to the broad patterns of our history, for its importance in the early healthcare of the County's indigent population, and later treatment of patients with chronic illnesses or mental disorders.[1]

The District was resurveyed in 2004 by Post/Hazeltine Associates and recommended ineligible due to a lack of integrity.[2] However, Post/Hazeltine Associates identified 11 buildings and structures as individually eligible as distinctive examples of a type, period, or method of construction under National Register Criterion C and California Register Criterion 3: Los Angeles County Building Numbers (LACO Nos.) 1100, 1101, 1177, 1178, 1238, 1261, 1262, 1263, 1300, 1301, and 1302.

The District was resurveyed again between 2007 and 2011 by Sapphos Environmental, Inc. (Sapphos), who concurred with HRG's original eligibility determination, but recommended that the period of significance be extended to 1952.[3] Sapphos also recommended nine buildings and structures individually eligible for listing in the National Register under Criterion C and California Register under Criterion 3 for architectural distinction: LACO Nos. 1100, 1101, 1177, 1238, 1262, 1263, 1300, 1301, and 1302.

Historic Overview

The following discussion is brief summary of the history of the Project Site. Please refer to the *Rancho Los Amigos Historic District Analysis Report* (Jerabek et al., 2018) for a more detailed discussion of the historical development, construction history, and architecture of the Project Site.

The Project Site was once part of Spanish-era 300,000-acre Rancho Los Nietos awarded to José Manuel Nieto in 1784. Nieto died in 1804, leaving the property to his four children. In 1834, Nieto's heirs divided Rancho Los Nietos into six smaller properties, resulting in the formation of Rancho Santa Gertrudes, within which the Project Site is located. Rancho Santa Gertrudes was awarded to the widow of Nieto's son Antonio, Josefa Cota Nieto, who then sold it to an Anglo named Lemuel Carpenter that same year. In 1859, Rancho Santa Gertrudes was auctioned to repay Carpenter's creditors and purchased by John Gately Downey and James McFarland. The purchase of Rancho Santa Gertrudes in 1859 began Downey's foray into the soon-to-be booming real estate market.

In 1887, the Los Angeles County Board of Supervisors purchased approximately 124 acres of land near the community of Downey and established the Los Angeles County Poor Farm, a facility that provided work and medical care for the indigent (known at that time as "inmates"). In 1888, architectural firm Kysor, Morgan, and Walls designed the site plan and most of the original core. The earliest facilities included an Administration Building, North Ward, and South Ward, as well as a water well, windmill, and barn. The North Ward was originally intended for female patients but was soon reassigned to indigent men whose numbers were steadily increasing. The poor farm's agricultural lands included orchards, vineyards, and a poultry yard intended to keep

1 Christy J. McAvoy, *1994 Northridge Earthquake Project Review*, 1995.

2 Post/Hazeltine Associates, *Intensive Historic Structures/Site Survey for the South Campus of Rancho Los Amigos Rehabilitation Center*, prepared for The County Administrator's Office, Los Angeles County, California, 2004.

3 Sapphos Environmental, Inc., *Rancho Los Amigos Historic District: Update Report*, 2011.

the inmates active. In addition to providing activities for the inmates, the agricultural fields allowed for the potential of self-sustainability, which would dramatically reduce the economic burden caused by the indigent upon the county.

By 1900, the Poor Farm's agricultural programs were beginning to turn a significant profit, prompting the County Board of Supervisors to reevaluate the institution's management structure, separating the responsibilities of the superintendent and chief physician into two distinct positions. During the early 20th century, the property struggled with its identity as it experienced changes leading it in the direction of becoming a long-term healthcare facility. Various structures were added to the Poor Farm, as needed, including, a windmill, barn, and aviary. Other improvements included a laundry and water pumping plant, electric lighting, and a blacksmith shop.

Research suggests that the Los Angeles County Poor Farm's transition to Rancho Los Amigos was not formally planned; rather, development occurred over time in response to specific needs. Under the leadership of Superintendent Charles Manning (1911-1915) the Poor Farm experienced significant growth adding a new dining room and kitchen, hospital wards, water tower, and horse stable, in 1913. By 1915, the population of the Poor Farm included 500 patients and 45 staff. During World War I, the Poor Farm transitioned away from an agricultural facility to more of an infirmary. Overcrowding in the County Hospital, which was established in 1858 by the Sisters of Charity in downtown Los Angeles, was forcefully converting the property into a healthcare facility by relocating patients with minor illnesses to the County Farm. By this time, William Ruddy Harriman had taken over as the Poor Farm's superintendent (1915-1952). Harriman would become the institution's longest tenured superintendent, overseeing nearly 40 years of improvements resulting in its transition from a poor farm into a long-term healthcare facility.

Significance of the Rancho Los Amigos Historic District

Based upon extensive research and fieldwork, the existing District was found by ESA to continue to remain eligible under National Register Criterion A and California Register Criterion 1 at the local level of significance. Furthermore, ESA found that the District meets Criterion 1 of the Los Angeles County Historic Preservation Ordinance established in September of 2015. The Los Angeles County Poor Farm and its evolution into a long-term healthcare facility (Rancho Los Amigos) during the late nineteenth and early twentieth centuries, reflects broader trends in medical history across the United States. The District's development over time illustrates changing approaches to healthcare and the treatment of Los Angeles County's indigent population. The District is also eligible under National Register Criterion C as a distinguishable entity whose components may lack individual distinction (i.e., a district) and meets Los Angeles County Criterion 5 as a listed historical resource on the California Register, eligible for listing on the National Register. Consistent with Sapphos' findings and based upon substantial evidence, the District's period of significance is 1888-1952, beginning with the Los Angeles County Poor Farm's opening and incorporating the full conversion and build-out of the healthcare facilities, ending with the final sale and subdivision of the adjacent agricultural lands originally associated with the Poor Farm, marking the completion of the subject property's transformation into a long-term healthcare facility.

The existing District continues to meet the National Register and California Register integrity requirements, retaining its integrity of location, design, workmanship, materials, setting, feeling, and association. The District remains in its original location since it opened as a poor farm in 1888. Many of the buildings and features constructed during the period of significance (1888-1952) remain intact with few alterations. Of the 109 buildings, structures, and features identified within the District, there are 62 contributors, representing seven different building types and landscape features, that reflect the overall function of the subject property as it evolved into a long-term healthcare facility.

Methodology

The character-defining features analysis was conducted by ESA staff including Margarita Jerabek, Ph.D., Director of Historic Resources and Christian Taylor M.H.P., Senior Architectural Historian, both of whom meet and exceed the Secretary of the Interior's Professional Qualification Standards in history and architectural history.[4]

The following tasks were performed by ESA for the study:

- Undertook an intensive pedestrian survey and digital photography to document the existing conditions of the District. ESA utilized the survey methodology of the State OHP.
- Conducted extensive research on the District and its construction history utilizing Sanborn fire insurance maps, historical photographs and plans, historical topographic maps, and other published sources.
- Conducted an updated Historic Resources Assessment of the District,[5] based on the current conditions of the property.
- ESA utilized the National Park Service's (NPS) guidance provided in Preservation Brief 17, *Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Their Preservation*, to identify the visual character of the District.[6]

While the District may be of historic, rather than architectural significance, it is the District's tangible material elements in its buildings, structures and features that embody its significance for association with specific events or persons. As the County considers the potential impacts of the Project on the District, identification of the Character-Defining Features will facilitate identifying a reasonable range of alternatives to the project that could result in a reduced impact to the District.

ESA conducted further research into the history, function and activities of the facility and found that the 61 contributors represent seven different building types associated with the historical development of Rancho Los Amigos. These seven building types embody the function and activities that materially convey the District's significance: (1) Administration and Staff Buildings, (2) Patient Wards, (3) Dining and Social Facilities, (4) Utilities, (5) Agriculture and

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4 The Professional Qualification Standards are requirements used by the National Park Service and have been published in the Code of Federal Regulations ("CFR"), 36 CFR Part 61.

5 *Rancho Los Amigos Historic District Analysis Report* (Jerabek et al., 2018).

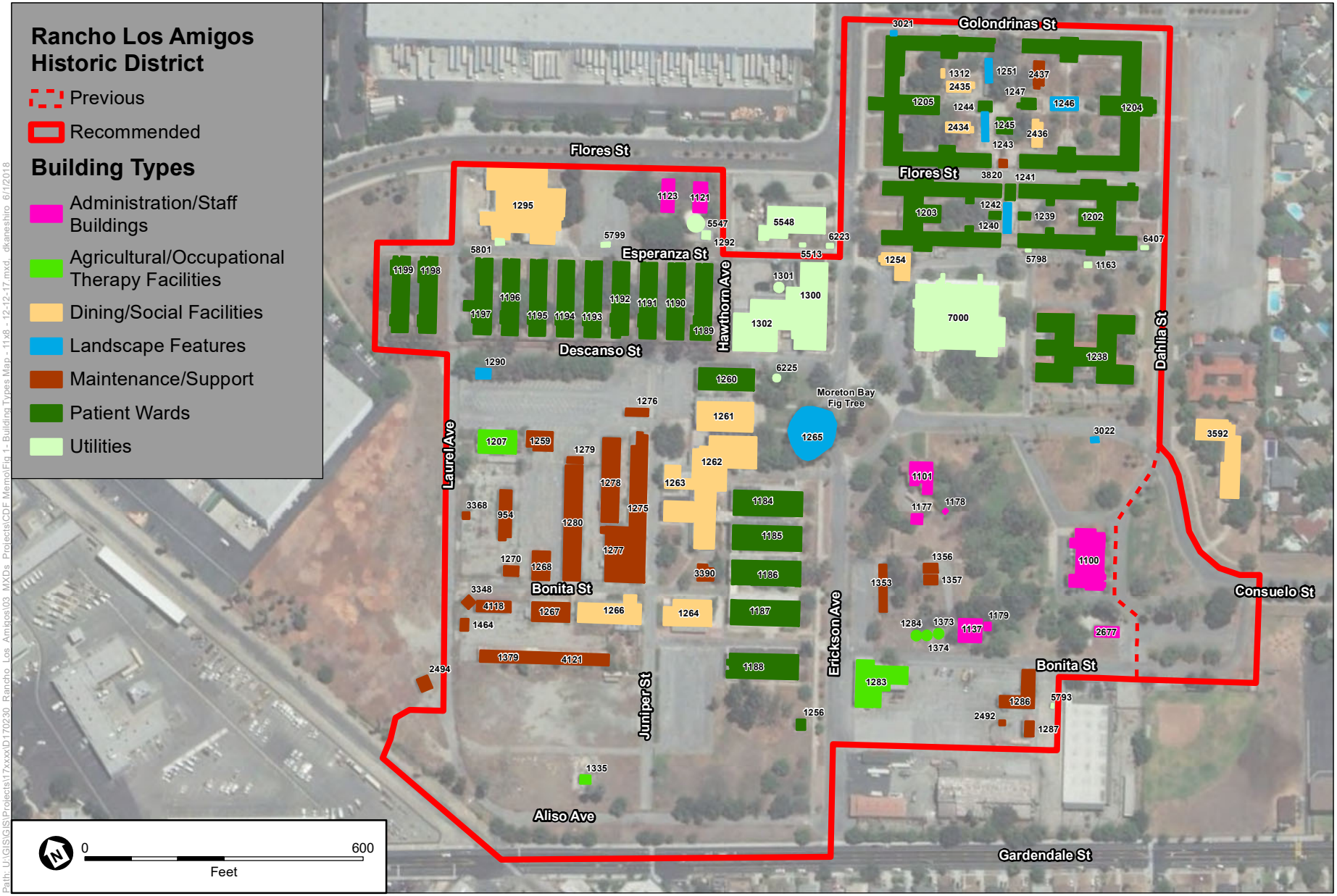
6 Lee H. Nelson, *Preservation Brief 17: Architectural Character—Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character*, National Park Service, September 1988 (http://www.nps.gov/tps/how-to-preserve/briefs/17-architectural-character.htm, accessed June 4, 2018).

Occupational Therapy Facilities, (6) Maintenance and Support Buildings, and (7) Landscape Features. The building types are illustrated geographically in **Figure 1** below. Photographs of key examples for each building type are provided in the property description beginning on page 64 of the *Rancho Los Amigos Historic District Analysis Report* (Jerabek et al., 2018).

Within each of these seven building types, District contributors were ranked into one of three categories (Primary, Secondary, or Tertiary) based upon their relative ability to materially convey District significance. These rankings were determined based on the four key considerations listed below:

- Level of Integrity – Level of integrity refers to a contributor's ability to convey the District's significance under National Register Criteria A and C, California Register Criterion 1, and Los Angeles County Criteria 1 and 5 by retaining integrity of location, setting, feeling, and association.
- Visual Prominence – Contributors located along prominent circulation paths (Consuelo Street and Erickson Avenue) were ranked higher than similar buildings located on secondary and tertiary pathways.
- Date of Construction – Throughout the District's development, groupings of buildings with similar functions and architectural design were constructed over multiple years. Date of construction was factored in to the ranking of contributors with higher rankings given to earlier examples of a particular function or design.
- Architectural Merit – The architectural merit of District contributors plays an important role in unifying the District. Contributors exhibiting high architectural merit will be ranked higher than simple utilitarian structures within the same building type

Primary contributors will have a high level of integrity and visual prominence, reflect early development phases, and may be key architectural examples of their building type. Secondary contributors will have a moderate level of integrity and visual prominence, reflect later development phases, and may not be key architectural examples of their building type. Tertiary contributors will have a lower level of integrity and visual prominence, reflect later development phases or are late examples of a particular architectural style/building type, and generally lack architectural merit.



SOURCE: NAIP, 2016 (Aerial).

Rancho Los Amigos South Campus

Figure 1

Building Types Map

ESA

Character-Defining Features Analysis of the Rancho Los Amigos Historic District

The 2017 survey performed by ESA documented changes in condition and confirmed the previous findings made by HRG and Sapphos that the existing District continues to remain eligible under National Register of Historic Places (National Register) Criterion A and California Register of Historical Resources (California Register) Criterion 1 at the local level of significance. Furthermore, ESA found that the District also meets Criterion C of the National Register as a distinguishable entity as well as Criterion 1 of the Los Angeles County Historic Preservation Ordinance established in September of 2015 and Los Angeles County Criterion 5 as a listed historical resource on the California Register, eligible for listing on the National Register.

The District remains in its original location since it opened as a poor farm in 1888. Although the District no longer reflects its original design for the Poor Farm, as constructed in 1888, later changes to the subject property have acquired significance for their association with the development of healthcare in Los Angeles County. Many of the buildings and features constructed during the period of significance (1888-1952) remain intact with few alterations.

Sapphos previously surveyed 117 buildings, structures, and features of which two have since been demolished and seven are located outside the District boundary.[7] ESA's survey results found that the District currently consists of 109 buildings, structures, and features, including the property's site plan which was not documented as a contributing feature in the previous surveys. Of the 109 documented buildings, structures, and features, 61 were identified as contributors and 48 were identified as non-contributors.

ESA documented the Site Plan, setting, and landscape as a contributing feature in the District. ESA expanded the District's boundary near the southeast corner to include the portions of Consuelo Street, Bonita Street, and Dalia Avenue and the associated landscape areas east of the Administration Building (LACO No. 1100) that retain integrity and were part of the District during the period of significance (1888-1952). Because of its important role in establishing the early organization and layout of the facility, the Site Plan is considered a primary contributing feature. The Site Plan consists of a network of circulation paths and open landscape spaces found throughout the District that materially contribute to its historic setting. The original entrance to the subject property was along present day Consuelo Street, while the perpendicular Erickson Avenue acted as a secondary pathway. Where the two streets intersect, a landscaped traffic circle adds to the historic character of the District. During the late 1920s and early 1930s, the primary entrance to the subject property shifted from Consuelo Street to the north along Erickson Avenue, due to new construction on what would become the North Campus and the establishment of Imperial Highway as a major east-west transportation corridor in 1931. The District is bounded by Golondrinas Street, Erickson Avenue, and Flores Street to the north, Dahlia Avenue, Consuelo

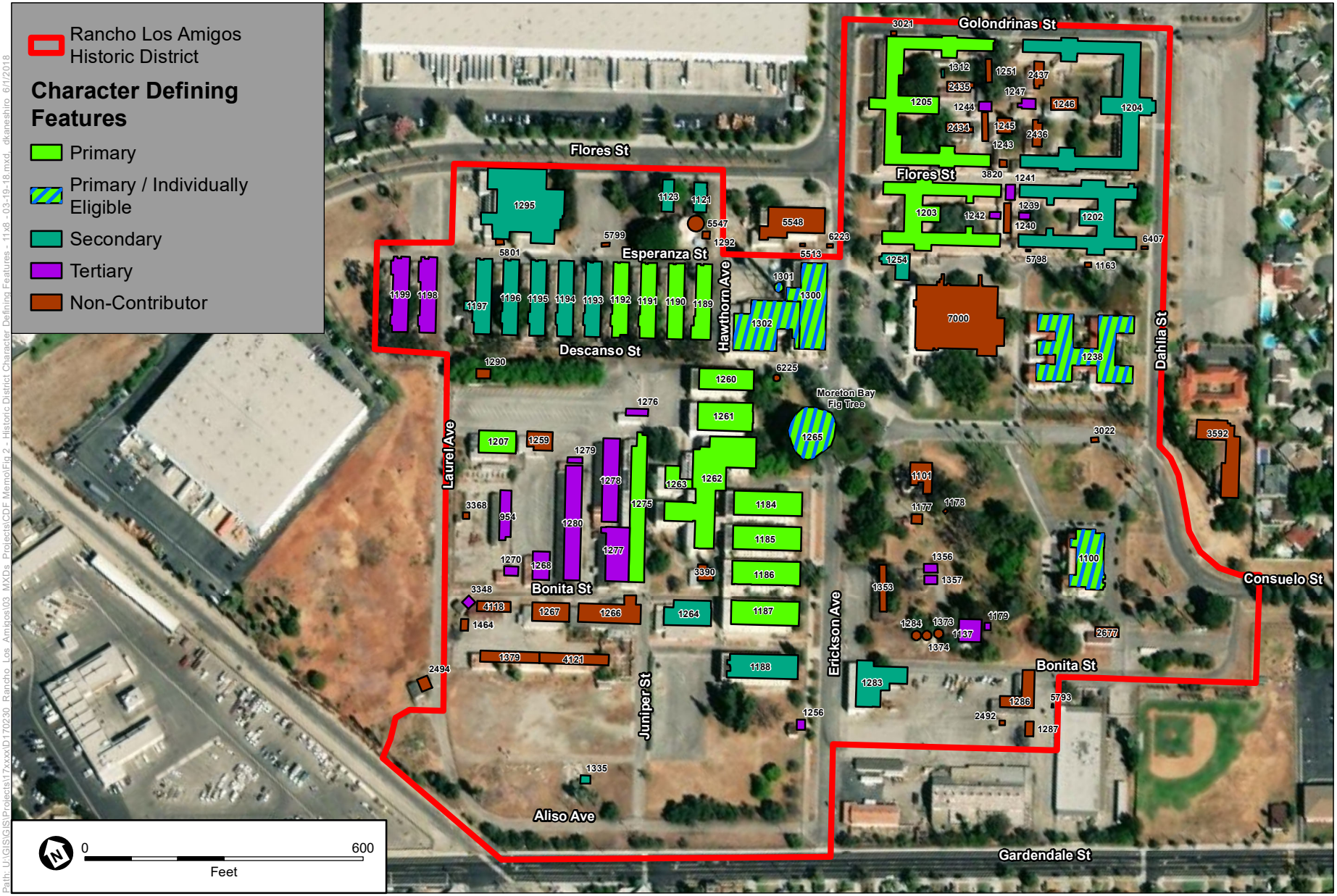
[7] LACO Nos. 3020 and 5393 have been demolished since Sapphos' survey of the District. Moreover, LACO Nos. 7704, 2637, 1991, 3591, as well two buildings associated with the Family Home, and an unnumbered Shed are located outside the District boundary and were not considered contributors.

Street, and Bonita Street to the east, Bonita Street, Erickson Avenue, and Aliso Street to the south, and Laurel Street to the west.

The District is made up of various different building and structure types and features (site plan and landscape features) that together reflect the physical development of the site and functions of the subject property as it evolved from a Poor Farm into a long-term healthcare facility. The District contains mostly one- and two- story patient wards, surrounded by support and administrative facilities. A majority of the extant contributing buildings and structures were constructed between 1907 and 1932 and were largely designed in the Renaissance Revival style and brick vernacular, although the District also exhibits examples of Craftsman, Neoclassical Revival, Spanish Colonial Revival, and modest utilitarian buildings.

ESA identified five buildings and structures as individually eligible under Criteria C/3 because they are distinctive examples of their type, period, and method of construction. These buildings and structures include: Administration/Safety Police Building (LACO No. 1100), Casa Consuelo (LACO No. 1238), and the grouping of the Power Plant (LACO No. 1300), Water Tower (LACO No. 1301), and Shop, Laundry and Ice Plant (LACO No. 1302). Additionally, the Moreton Bay Fig Tree appears individually eligible under Los Angeles County Criterion 6 as one of the oldest and largest of its species in the county and Criterion 7 as a significant feature of a neighborhood.

The District is characterized by a combination of buildings, structures, and features, representing seven different building types associated with the historical development of the District (Administration and Staff Buildings, Patient Wards, Dining and Social Facilities, Utilities, Agriculture and Occupational Therapy Facilities, Maintenance and Support Buildings, and Landscape Features). Together, the District's contributing Site Plan, buildings, structures, and landscape features embody the history and significance of the site. As a result of this analysis, ESA identified 23 Primary Contributors, 17 Secondary Contributors, 21 Tertiary Contributors and 48 Non-Contributors. A map of the District, illustrating the contributors by their relative importance within the District is included below as **Figure 2**. An inventory of buildings, structures, and features classified as primary, secondary, tertiary, and non-contributing is presented below in **Table 1.**



SOURCE: DigitalGlobe, 2016 (Aerial), ESA, 2018.

Rancho Los Amigos South Campus

Figure 2

Historic District Character Defining Features

ESA

TABLE 1
CHARACTER-DEFINING FEATURES OF THE RANCHO LOS AMIGOS HISTORIC DISTRICT

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
Administration/ Staff Buildings	LACO No. 1100	Administration/Safety Police Building	1926	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1121	Staff Cottage	1921	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Moderate	
	LACO No. 1123	Staff Cottage	1924	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Moderate	
	LACO No. 1137	Dairyman's House	1907	Integrity	Moderate	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Low	
	LACO No. 1179	Dairyman's Garage	1926	Integrity	Moderate	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Low	
	LACO No. 2677	Post Office	1949	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Administration/ Staff Buildings (cont.)	LACO No. 1101	Superintendent's Residence/Harriman House	1915	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1177	Superintendent's Garage	1917	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1178	Superintendent's Shed	c.1917-1922	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
Patient Wards	LACO No. 1205	Men's Psychiatric Ward	1907	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1184	General Ward 30	1913	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1185	General Ward 40	1913	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1186	General Ward 50	1916	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1203	Women's Psychiatric Ward	1919	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1260	Bathhouse and Ward	1922	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1189	Patient Ward 201	1923	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
Patient Wards (cont.)	LACO No. 1190	Patient Ward 202	1923	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1191	Patient Ward 203	1923	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1192	Patient Ward 204	1923	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
	LACO No. 1187	General Ward 60	1926	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1238	Casa Consuelo	1930	Integrity	High	Contributor ** (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1202	Women's Psychiatric Ward	1924	Integrity	High	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1204	Men's Psychiatric Ward	1924	Integrity	High	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1193	Patient Ward 205	1926	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1194	Patient Ward 206	1926	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1195	Patient Ward 207	1926	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	High	
Patient Wards (cont.)	LACO No. 1188	General Ward 70	1928	Integrity	High	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Low	
				Architectural Merit	High	
	LACO No. 1196	Patient Ward 208	1928	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	High	
	LACO No. 1197	Patient Ward 209	1928	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	High	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
	LACO No. 1244	Toilet Room	1916	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Low	
	LACO No. 1242	Toilet Building	1923	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1247	Toilet Building	1925	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1256	Toilet Building	1926	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1198	Patient Ward 210	1928	Integrity	Low	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Moderate	
	LACO No. 1199	Patient Ward 211	1928	Integrity	Low	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Moderate	
	LACO No. 1239	Toilet Building	1930	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
Patient Wards (cont.)	LACO No. 1241	Linen Room	1932	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 1245	Linen Room/Snack Bar No. 3	1932	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Dining/Social Facilities	LACO No. 1263	Commissary and Receiving Room	1912	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
	LACO No. 1262	Dining Room, Kitchen, Staff Room	1913-1926	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1261	Auditorium	1928	Integrity	Moderate	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1312	Aviary	1888 (Relocated c. 1924)*	Integrity	Moderate	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	Low	
	LACO No. 1254	Chapel/Computer Center	1908	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	Moderate	
	LACO No. 1295	Kitchen and Dining Building	1927	Integrity	High	Contributor (Secondary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	High	
	LACO No. 1264	Bonita Hall	1932	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Low	
				Architectural Merit	High	
	LACO No. 1266	Amigos Hall	1928	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Dining/Social Facilities (cont.)	LACO No. 2434	Shed/Men's Gymnasium	1949*	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 2435	Patient Recreation Shed	1949	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 2436	Classroom Hut/Shed	1949	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
	LACO No. 3592	Chapel	1953	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Utilities	LACO No. 1302	Shop, Laundry, Ice Plant	1909-1911	Integrity	High	Contributor ** (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1301	Water Tower	1913	Integrity	High	Contributor ** (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1300	Power Plant	1925	Integrity	High	Contributor ** (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1292	Pump House	1932	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1163	Generator House	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5513	Electrical Station 18	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Utilities (cont.)	LACO No. 5793	Electrical Distribution Panel	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5798	Electrical Station 16	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5799	Electrical Station 4C	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
	LACO No. 5801	Generator House	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 6223	Electrical Station	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 6225	Electrical Station	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 6407	Electrical Station	Unknown (Post 1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5547	200,000 Gallon Tank	1966	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 5548	Steam Plant	1966	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Agricultural/Occupational Therapy Facilities	LACO No. 1207	Work Preparation Center	1925*	Integrity	High	Contributor (Primary)
				Visual Prominence	Low	
				Date of Construction	High	
				Architectural Merit	High	
Agricultural/Occupational Therapy Facilities (cont.)	LACO No. 1283	Trunk Storage	1915	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1335	Brooder House/Vivarium Annex	1929	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	Moderate	
				Architectural Merit	Moderate	
	LACO No. 1284	Grain Tank	Unknown	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
	LACO No. 1373	Grain Tank	Unknown	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1374	Grain Tank	Unknown	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Maintenance/Support	LACO No. 1275	Workshop	1917	Integrity	High	Contributor (Primary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	High	
	LACO No. 1276	Lock Shop	1913	Integrity	Moderate	Contributor (Secondary)
				Visual Prominence	Moderate	
				Date of Construction	High	
				Architectural Merit	Moderate	
	LACO No. 1278	Garage and Storage	1924	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1277	Garage	1925*	Integrity	Moderate	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1279	Garage	1925*	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
Maintenance/Support (cont.)	LACO No. 1356	Tool House	1926	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1280	Garage/Storage	1928	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Moderate	
				Architectural Merit	Low	
	LACO No. 1268	Storage	1932	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	

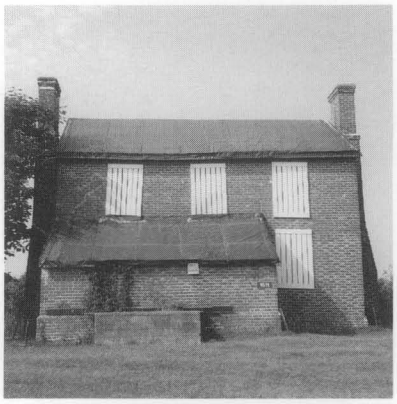
Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
	LACO No. 1270	Garage	1932	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 1357	Landscape Office	1938	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 954	Lumber Shed	1942	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 3348	Garbage Can Room	1951	Integrity	High	Contributor (Tertiary)
				Visual Prominence	Low	
				Date of Construction	Low	
				Architectural Merit	Low	
	LACO No. 1287	Oil and Storage	1909	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1286	Garage/Storage	1920	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1267	Transportation Office	1930	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Maintenance/Support (cont.)	LACO No. 1259	Wheel Chair Repair	1932	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1464	Shed	1945*	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 2492	Toilet Room	1948	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
	LACO No. 2437	Metal Shed	1949	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 3368	Shed	Unknown (Pre-1952)	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 2494	Shed	Unknown (Pre-1952)	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1353	Greenhouse	Unknown (Post-1952)*	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 3390	Prosthetic Shop	1953	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 3820	Loading Dock	1954	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 4121	Garage	Unknown (Post-1954)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Maintenance/Support (cont.)	LACO No. 1379	Garage	Unknown (Post-1954)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 4118	Garage	Post-1965	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Landscape Features	N/A	RLA Site Plan	1888+	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	N/A	

Building Type	LACO No.	Building Name	Date of Construction	Ranking Factors		Eligibility Status (ESA, 2017)
	N/A	Moreton Bay Fig Tree	1900	Integrity	High	Contributor (Primary)
				Visual Prominence	High	
				Date of Construction	High	
				Architectural Merit	N/A	
	LACO No. 1265	Shelter	c. 1933*	Integrity	High	Contributor (Secondary)
				Visual Prominence	High	
				Date of Construction	Low	
				Architectural Merit	Moderate	
	LACO No. 1290	Shelter	Unknown (1926-1930)	Integrity	N/A	Non-Contributor (Lack of Integrity)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1240	Shelter	Unknown (Post-1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1243	Open Shelter	Unknown (Post-1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1246	Canopy	Unknown (Post-1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 1251	Open Shelter	Unknown (Post-1952)	Integrity	N/A	Non-Contributor (Outside Period of Significance)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
Landscape Features (cont.)	LACO No. 3020	Bus Stop	Unknown	Integrity	N/A	Non-Contributor (Not Extant)
				Visual Prominence	N/A	
				Date of Construction	N/A	
				Architectural Merit	N/A	
	LACO No. 3021	Bus Stop	Unknown	Integrity	Yes	Non-Contributor (Does not contribute to District's significance)
				Visual Prominence	Yes	
				Date of Construction	Yes	
				Architectural Merit	Yes	
	LACO No. 3022	Bus Stop	Unknown	Integrity	Yes	Non-Contributor (Does not contribute to District's significance)
				Visual Prominence	Yes	
				Date of Construction	Yes	
				Architectural Merit	Yes	

Appendix C
The National Park Service's *Preservation Brief #31: Mothballing Historic Buildings*

31 PRESERVATION BRIEFS



Mothballing Historic Buildings

Sharon C. Park, AIA

U.S. Department of the Interior
National Park Service
Cultural Resources

Heritage Preservation Services

When all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism. This process, known as mothballing, can be a necessary and effective means of protecting the building while planning the property's future, or raising money for a preservation, rehabilitation or restoration project. If a vacant property has been declared unsafe by building officials, stabilization and mothballing may be the only way to protect it from demolition.

This Preservation Brief focuses on the steps needed to "de-activate" a property for an extended period of time. The project team will usually consist of an architect, historian, preservation specialist, sometimes a structural engineer, and a contractor. Mothballing should not be done without careful planning to ensure that needed physical repairs are made prior to securing the building. The steps discussed in this Brief can protect buildings for periods of up to ten years; long-term success will also depend on continued, although somewhat limited, monitoring and maintenance. For all but the simplest projects, hiring a team of preservation specialists is recommended to assess the specific needs of the structure and to develop an effective mothballing program.

A vacant historic building cannot survive indefinitely in a boarded-up condition, and so even marginal interim uses where there is regular activity and monitoring, such as a caretaker residence or non-flammable storage, are generally preferable to mothballing. In a few limited cases when the vacant building is in good condition and in a location where it can be watched and checked regularly, closing and locking the door, setting heat levels at just above freezing, and securing the windows may provide sufficient protection for a period of a few years. But if long-term mothballing is the only remaining option, it must be done properly (see fig. 1 & 2). This will require stabilization of the exterior, properly designed security protection, generally some form of interior ventilation - either through mechanical or natural air exchange systems - and continued maintenance and surveillance monitoring.

Figure 1. Proper mothballing treatment: This building has been successfully mothballed for 10 years because the roof and walls were repaired and structurally stabilized, ventilation louvers were added, and the property is maintained. Photo: Charles E. Fisher, NPS.

Comprehensive mothballing programs are generally expensive and may cost 10% or more of a modest rehabilitation budget. However, the money spent on well-planned protective measures will seem small when amortized over the life of the resource. Regardless of the location and condition of the property or the funding available, the following 9 steps are involved in properly mothballing a building:

Figure 2. Improper treatment: Boarding up without adequate ventilation, lack of maintenance, and neglect of this property have accelerated deterioration. Photo; NPS file.

Documentation

1. Document the architectural and historical significance of the building.

2. Prepare a condition assessment of the building.

Stabilization

3. Structurally stabilize the building, based on a professional condition assessment.

4. Exterminate or control pests, including termites and rodents.

5. Protect the exterior from moisture penetration.

Mothballing

6. Secure the building and its component features to reduce vandalism or break-ins.

7. Provide adequate ventilation to the interior.

8. Secure or modify utilities and mechanical systems.

9. Develop and implement a maintenance and monitoring plan for protection.

These steps will be discussed in sequence below. Documentation and stabilization are critical components of the process and should not be skipped over. Mothballing measures should not result in permanent damage, and so each treatment should be weighed in terms of its reversibility and its overall benefit.

Documentation

Documenting the historical significance and physical condition of the property will provide information necessary for setting priorities and allocating funds. The project team should be cautious when first entering the structure if it has been vacant or is deteriorated. It may be advisable to shore temporarily areas appearing to be structurally unsound until the condition of the structure can be fully assessed (see fig. 3). If pigeon or bat droppings, friable asbestos or other health hazards are present, precautions must be taken to wear the appropriate safety equipment when first inspecting the building. Consideration should be given to hiring a firm specializing in hazardous waste removal if these highly toxic elements are found in the building.

Documenting and recording the building. Documenting a building's history is important because evidence of its true age and architectural significance may not be readily evident. The owner should check with the State Historic Preservation Office or local preservation commission for assistance in researching the building. If the building has never been researched for listing in the National Register of Historic Places or other historic registers, then, at a minimum, the following should be determined:

- The overall historical significance of the property and dates of construction;
- the chronology of alterations or additions and their approximate dates; and,
- types of building materials, construction techniques, and any unusual detailing or regional variations of craftsmanship.

Old photographs can be helpful in identifying early or original features that might be hidden under modern materials. On a walk-through, the architect, historian, or preservation specialist should identify the architecturally significant elements of the building, both inside and out (see fig.4).

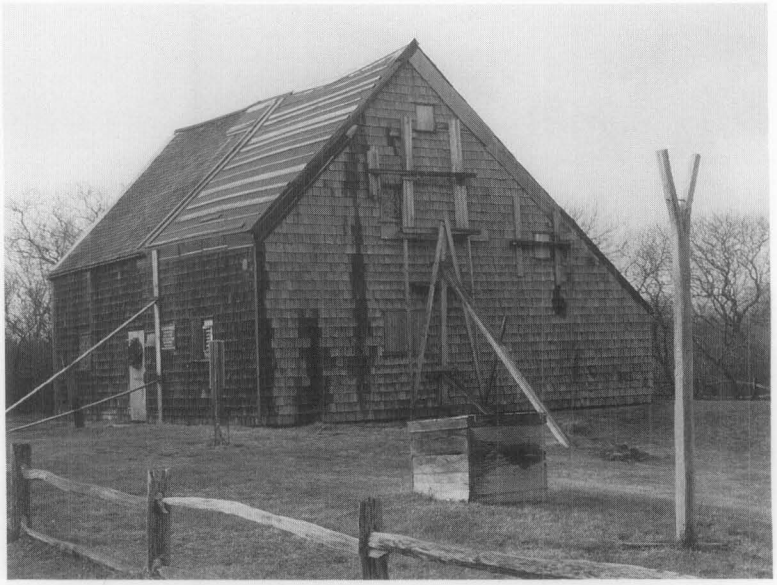


Figure 3. Buildings seriously damaged by storms or deterioration may need to be braced before architectural evaluations can be made. Jethro Coffin House. Photo: John Milner Architects.

Figure 4. Documenting the building's history, preparing schematic plans, and assessing the condition of the building will provide necessary information on which to set priorities for stabilization and repair prior to securing the building. Photo: Frederick Lindstrom, HABS.

By understanding the history of the resource, significant elements, even though deteriorated, may be spared the trash pile. For that reason alone, any materials removed from the building or site as part of the stabilization effort should be carefully scrutinized and, if appearing historic, should be photographed, tagged with a number, inventioried, and safely stored, preferably in the building, for later retrieval (see fig. 5).

A site plan and schematic building floor plans can be used to note important information for use when the building is eventually preserved, restored, or rehabilitated. Each room should be given a number and notations added to the plans regarding the removal of important features to storage or recording physical treatments undertaken as part of the stabilization or repair.

Because a mothballing project may extend over a long period of time, with many different people involved, clear records should be kept and a building file established. Copies of all important data, plans, photographs, and lists of consultants or contractors who have worked on the property should be added to the file as the job progresses.

Figure 5. Loose or detached elements should be identified, tagged and stored, preferably on site. Photo: NPS files.

Recording all actions taken on the building will be helpful in the future.

The project coordinator should keep the building file updated and give duplicate copies to the owner. A list of emergency numbers, including the number of the key holder, should be kept at the entrance to the building or on a security gate, in a transparent vinyl sleeve.

Preparing a condition assessment of the building. A condition assessment can provide the owner with an accurate overview of the current condition of the property. If the building is deteriorated or if there are significant interior architectural elements that will need special protection during the mothballing years, undertaking a condition assessment is highly recommended, but it need not be exhaustive.

A modified condition assessment, prepared by an architect or preservation specialist, and in some case a structural engineer, will help set priorities for repairs necessary to stabilize the property for both the short and long-term. It will evaluate the age and condition of the following major elements: foundations; structural systems; exterior materials; roofs and gutters; exterior porches and steps; interior finishes; staircases; plumbing, electrical, mechanical systems; special features such as chimneys; and site drainage.

To record existing conditions of the building and site, it will be necessary to clean debris from the building and to remove unwanted or overgrown vegetation to expose foundations. The interior should be emptied of its furnishing (unless provisions are made for mothballing these as well), all debris removed, and the interior swept with a broom. Building materials too deteriorated to repair, or which have come detached, such as moldings, balusters, and decorative plaster, and which can be used to guide later preservation work, should be tagged, labeled and saved.

Photographs or a videotape of the exterior and all interior spaces of the resource will provide an invaluable record of "as is" conditions. If a videotape is made, oral commentary can be provided on the significance of each space and architectural feature. If 35mm photographic prints or slides are made, they should be numbered, dated, and appropriately identified. Photographs should be cross-referenced with the room numbers on the schematic plans. A systematic method for photographing should be developed; for example, photograph each wall in a room and then take a corner shot to get floor and ceiling portions in the picture. Photograph any unusual details as well as examples of each window and door type.

For historic buildings, the great advantage of a condition assessment is that architectural features, both on the exterior as well as the interior, can be rated on a scale of their importance to the integrity and significance of the building. Those features of the highest priority should receive preference when repairs or protection measures are outlined as part of the mothballing process. Potential problems with protecting these features should be identified so that appropriate interim solutions can be selected. For example, if a building has always been heated and if murals, decorative plaster walls, or examples of patterned wall paper are identified as highly significant, then special care should be taken to regulate the interior climate and to monitor it adequately during the

mothballing years. This might require retaining electrical service to provide minimal heat in winter, fan exhaust in summer, and humidity controls for the interior.

Stabilization

Stabilization as part of a mothballing project involves correcting deficiencies to slow down the deterioration of the building while it is vacant. Weakened structural members that might fail altogether in the forthcoming years must be braced or reinforced; insects and other pests removed and discouraged from returning; and the building protected from moisture damage both by weatherizing the exterior envelope and by handling water run-off on the site. Even if a modified use or caretaker services can eventually be found for the building, the following steps should be addressed.

Structurally stabilizing the building. While bracing may have been required to make the building temporarily safe for inspection, the condition assessment may reveal areas of hidden structural damage. Roofs, foundations, walls, interior framing, porches and dormers all have structural components that may need added reinforcement. Structural stabilization by a qualified contractor should be done under the direction of a structural engineer or a preservation specialist to ensure that the added weight of the reinforcement can be sustained by the building and that the new members do not harm historic finishes (see fig. 6). Any major vertical post added during the stabilization should be properly supported and, if necessary, taken to the ground and underpinned.

Figure 6. Interior bracing which will last the duration of the mothballing will protect weakened structural members. Jethro Coffin House. Photo: John Milner Architects.

If the building is in a northern climate, then the roof framing must be able to hold substantial snow loads. Bracing the roof at the ridge and mid-points should be considered if sagging is apparent. Likewise, interior framing around stair openings or under long ceiling spans should be investigated. Underpinning or bracing structural piers weakened by poor drainage patterns may be a good precaution as well. Damage caused by insects, moisture, or from other causes should be repaired or reinforced and, if possible, the source of the damage removed. If features such as porches and dormers are so severely deteriorated that they must be removed, they should be documented, photographed, and portions salvaged for storage prior to removal.

If the building is in a southern or humid climate and termites or other insects are a particular problem, the foundation and floor framing should be inspected to ensure that there are no major structural weaknesses. This can usually be done by observation from the crawl space or basement. For those structures where this is not possible, it may be advisable to lift selective floor boards to expose the floor framing. If there is evidence of pest damage, particularly termites, active colonies should be treated and the structural members reinforced or replaced, if necessary.

Controlling pests. Pests can be numerous and include squirrels, raccoons, bats, mice, rats, snakes, termites, moths, beetles, ants, bees and wasps, pigeons, and other birds. Termites, beetles, and carpenter ants destroy wood. Mice, too, gnaw wood as well as plaster, insulation, and electrical wires. Pigeon and bat droppings not only damage wood finishes but create a serious and sometimes deadly health hazard.

If the property is infested with animals or insects, it is important to get them out and to seal off their access to the building. If necessary, exterminate and remove any nests or hatching colonies. Chimney flues may be closed off with exterior grade plywood caps, properly ventilated, or protected with framed wire screens. Existing vents, grills, and louvers in attics and crawl spaces should be screened with bug mesh or heavy duty wire, depending on the type of pest being controlled. It may be advantageous to have damp or infected wood treated with insecticides (as permitted by each state) or preservatives, such as borate, to slow the rate of deterioration during the time that the building is not in use.

Securing the exterior envelope from moisture penetration. It is important to protect the exterior envelope from moisture penetration before securing the building. Leaks from deteriorated or damaged roofing, from around windows and doors, or through deteriorated materials, as well as ground moisture from improper site run-off or rising damp at foundations, can cause long-term damage to interior finishes and structural systems. Any serious deficiencies on the exterior, identified in the condition assessment, should be addressed.

To the greatest extent possible, these weatherization efforts should not harm historic materials. The project budget may not allow deteriorated features to be fully repaired or replaced in-kind. Non-historic or modern materials may be used to cover historic surfaces temporarily, but these treatments should not destroy valuable evidence necessary for future preservation work. Temporary modifications should be as visually compatible as possible with the historic building.

Roofs are often the most vulnerable elements on the building exterior and yet in some ways they are the easiest element to stabilize for the long term, if done correctly. "Quick fix" solutions, such as tar patches on slate roofs, should be avoided as they will generally fail within a year or so and may accelerate damage by trapping moisture. They are difficult to undo later when more permanent repairs are undertaken. Use of a tarpaulin over a leaking roof should be thought of only as a very temporary

Figure 7. Non-historic materials are appropriate for mothballing projects when they are used to protect historic evidence remaining for future preservation. This lightweight aluminum channel frame and roofing covers the historic wooden shingle roof. Galvanized mesh panels secure the window openings from intrusion by raccoons and other unwanted guests. Photo: Williamsport Preservation Training Center, NPS.

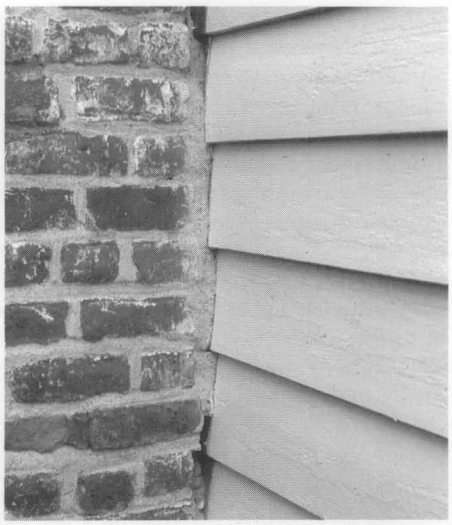


Figure 8. Appropriate mortar mixes should be used when masonry repairs are undertaken. In this case, a soft lime based mortar is used as an infill between the brick and wooden elements. When full repairs are made during the restoration phase, this soft mortar can easily be removed and missing bricks replaced.

emergency repair because it is often blown off by the wind in a subsequent storm.

If the existing historic roof needs moderate repairs to make it last an additional ten years, then these repairs should be undertaken as a first priority. Replacing cracked or missing shingles and tiles, securing loose flashing, and reanchoring gutters and downspouts can often be done by a local roofing contractor. If the roof is in poor condition, but the historic materials and configuration are important, a new temporary roof, such as a lightweight aluminum channel system over the existing, might be considered (see fig. 7). If the roofing is so deteriorated that it must be replaced and a lightweight aluminum system is not affordable, various inexpensive options might be considered. These include covering the existing deteriorated roof with galvanized corrugated metal roofing panels, or 90 lb. rolled roofing, or a rubberized membrane (refer back to cover photo). These alternatives should leave as much of the historic sheathing and roofing in place as evidence for later preservation treatments.

For masonry repairs, appropriate preservation approaches are essential. For example, if repointing deteriorated brick chimneys or walls is necessary to prevent serious moisture penetration while the building is mothballed, the mortar should match the historic mortar in composition, color, and tooling. The use of hard portland cement mortars or vapor-impermeable waterproof coatings are not appropriate solutions as they can cause extensive damage and are not reversible treatments (see fig. 8).

For wood siding that is deteriorated, repairs necessary to keep out moisture should be made; repainting is generally warranted. Cracks around windows and doors can be beneficial in providing ventilation to the interior and so should only be caulked if needed to keep out bugs and moisture. For very deteriorated wall surfaces on wooden frame structures, it may be necessary to sheathe in plywood panels, but care should be taken to minimize installation damage by planning the location of the nailing or screw patterns or by installing panels over a frame of battens (see fig. 9). Generally, however, it is better to repair deteriorated features than to cover them over.

Foundation damage may occur if water does not drain away from the building. Run-off from gutters and downspouts should be directed far away from the foundation wall by using long flexible extender pipes equal in length to twice the depth of the basement or crawl space. If underground drains are susceptible to clogging, it is recommended that the downspouts be disconnected from the drain boot and attached to flexible piping. If gutters and downspouts are in bad condition, replace them with inexpensive aluminum units.

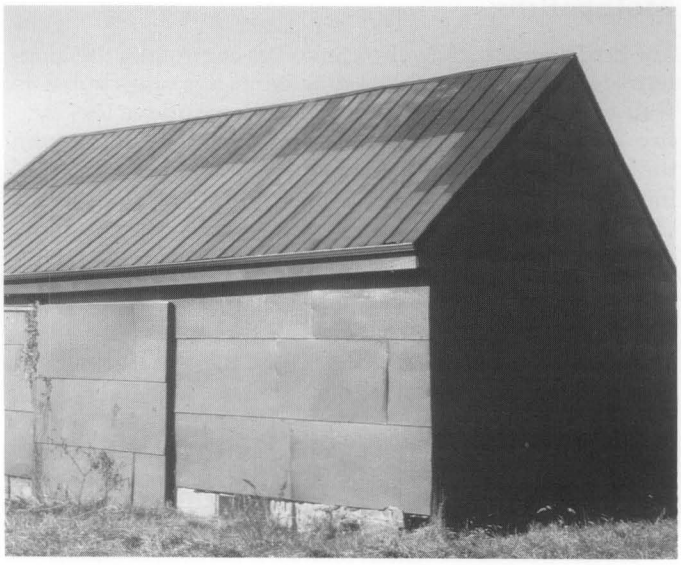


Figure 9. Severely deteriorated wooden siding on a farm building has been covered over with painted plywood panels as a temporary measure to eliminate moisture penetration to the interior. Foundation vents and loose floor boards allow air to circulate inside.

If there are no significant landscape or exposed archeological elements around the foundation, consideration should be given to regrading the site if there is a documented drainage problem (see fig. 10). If building up the grade, use a fiber mesh membrane to separate the new soil from the old and slope the new soil 6 to 8 feet (200 cm-266 cm) away from the foundation making sure not to cover up the dampcourse layer or come into contact with skirting boards. To keep vegetation under control, put down a layer of 6 mil black polyethylene sheeting or fiber mesh matting covered with a 2"-4" (5-10 cm.) of washed gravel. If the building suffers a serious rising damp problem, it may be advisable to eliminate the plastic sheeting to avoid trapping ground moisture against foundations.

Figure 10. Regrading around the Booker Tenement at Colonial Williamsburg has protected the masonary foundation wall from excessive damp. This building has been successfully mothballed for over 10 years. Note the attic and basement vents, the temporary stairs, and the informative sign interpreting the history of this building.

Mothballing

The actual mothballing effort involves controlling the long-term deterioration of the building while it is unoccupied as well as finding methods to protect it from sudden loss by fire or vandalism. This requires securing the building from unwanted entry, providing adequate ventilation to the interior, and shutting down or modifying existing utilities. Once the building is de-activated or secured, the long-term success will depend on periodic maintenance and surveillance monitoring.

Securing the building from vandals, break-ins, and natural disasters. Securing the building from sudden loss is a critical aspect of mothballing. Because historic buildings are irreplaceable, it is vital that vulnerable entry points are sealed. If the building is located where fire and security service is available then it is highly recommeded that some form of monitoring or alarm devices be used.

To protect decorative features, such as mantels, lighting fixtures, copper downspouts, iron roof cresting, or stained glass windows from theft or vandalism, it may be advisable to temporarily remove them to a more secure location if they cannot be adequately protected within the structure.

Mothballed buildings are usually boarded up, particularly on the first floor and basement, to protect fragile glass windows from breaking and to reinforce entry points (see fig. 11). Infill materials for closing door and window openings include plywood, corrugated panels, metal grates, chain fencing, metal grills, and cinder or cement blocks (see fig. 12). The method of installation should not result in the destruction of the opening and all associated sash, doors, and frames should be protected or stored for future reuse.

Figure 11. Urban buildings often need additional protection from unwanted entry and graffiti. This commercial building uses painted plywood panels to cover expansive glass storefronts and chain link fencing is applied on top of the panels. The upper windows on the street sides have been covered and painted to resemble 19th century sash. Photo: Thomas Jester, NPS.

Generally exterior doors are reinforced and provided with strong locks, but if weak historic doors would be damaged or disfigured by adding reinforcement or new locks, they may be removed temporarily and replaced with secure modern doors (see fig. 13). Alternatively, security gates in a new metal frame can be installed within existing door openings, much like a storm door, leaving the historic door in place. If plywood panels are installed over door openings, they should be screwed in place, as opposed to nailed, to avoid crowbar damage each time the panel is removed. This also reduces pounding vibrations from hammers and eliminates new nail holes each time the panel is replaced.

For windows, the most common security feature is the closure of the openings; this may be achieved with wooden or pre-formed panels or, as needed, with metal sheets or concrete blocks. Plywood panels, properly installed to protect wooden frames and properly ventilated, are the preferred treatment from a preservation standpoint.

There are a number of ways to set insert plywood panels into windows openings to avoid damage to frame and sash (see fig. 14). One common method is to bring the upper and lower sash of a double hung unit to the mid-point of the opening and then to install pre-cut plywood panels using long carriage bolts anchored into horizontal wooden bracing, or strong backs, on the inside face of the window. Another means is to build new wooden blocking frames set into deeply recessed openings, for example in an industrial mill or warehouse, and then to affix the plywood panel to

the blocking frame. If sash must be removed prior to installing panels, they should be labeled and stored safely within the building.

Plywood panels are usually 1/2"-3/4" (1.25-1.875 cm.) thick and made of exterior grade stock, such as CDX, or marine grade plywood. They should be painted to protect them from delamination and to provide a neater appearance. These panels may be painted to resemble operable windows or treated decoratively (see fig. 15). With extra attention to detail, the plywood panels can be

Figure 12. First floor openings have been filled with cinderblocks and doors, window sash and frames have been removed for safe keeping. Note the security light over the windows and the use of a security metal door with heavy duty locks. Photo: H. Ward Jandl, NPS.

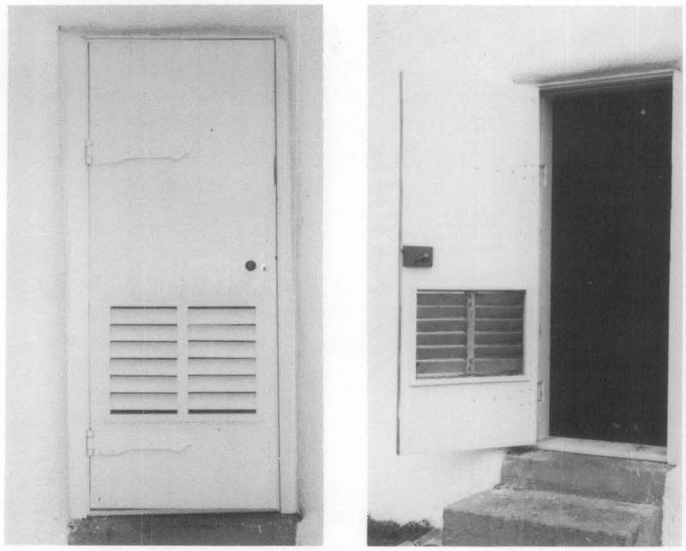


Figure 13. If historic doors would be damaged by adding extra locks, they should be removed and stored and new security doors added. At this lighthouse, the historic door has been replaced with a new door (seen both inside and outside) with an inset vent and new deadbolt locks. The heavy historic hinges have not been damaged. Photo: Williamsport Preservation Training Center, NPS.

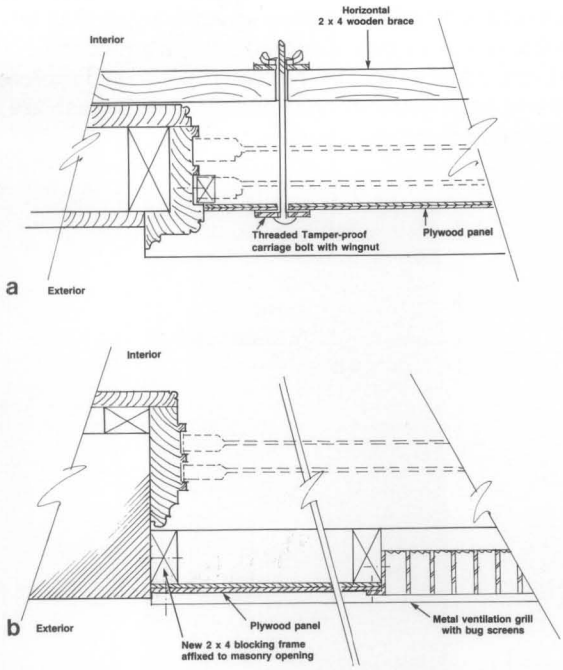


Figure 14. A: Plan detail showing plywood security panel anchored with carriage bolts through to the inside horizontal bracing, or strong backs. B: Plan detail showing section of plywood window panel attached to a new pressure treated wood frame set within the masonry opening. Ventilation should be included whenever possible or necessary.

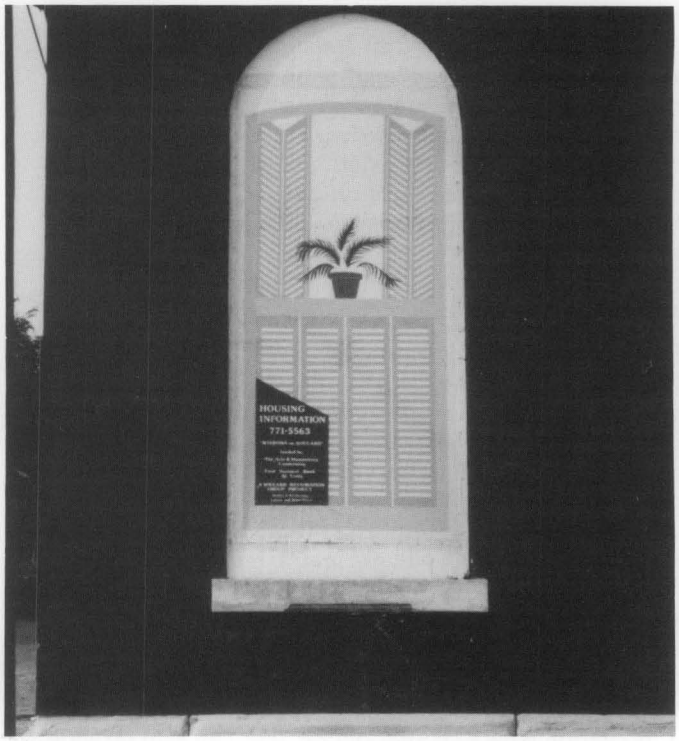


Figure 15. Painting trompe l'oeil scenes on plywood panels is a neighborhood friendly device. In addition, the small sign at the bottom left corner gives information for contacting the organization responsible for the care of the mothballed building. Photo: Lee H. Nelson, FAIA.

trimmed out with muntin strips to give a shadow line simulating multi-lite windows. This level of detail is a good indication that the building is protected and valued by the owner and the community.

If the building has shutters, simply close the shutters and secure them from the interior (see fig. 16). If the building had shutters historically, but they are missing, it may be appropriate to install new shutters, even in a modern material, and secure them in the closed position. Louvered shutters will help with interior ventilation if the sash are propped open behind the shutters.

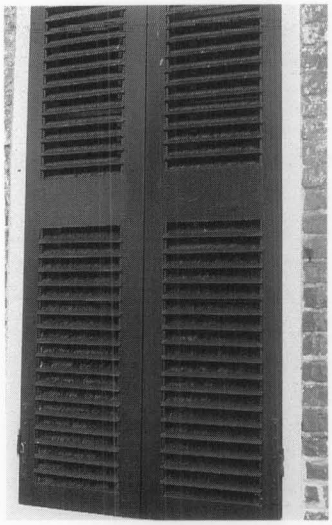


Figure 16. Historic louvered shutters make excellent security closures with passive ventilation.

There is some benefit from keeping windows unboarded if security is not a problem. The building will appear to be occupied, and the natural air leakage around the windows will assist in ventilating the interior. The presence of natural light will also help when periodic inspections are made. Rigid polycarbonate clear storm glazing panels may be placed on the window exterior to protect against glass breakage. Because the sun's ultraviolet rays can cause fading of floor finishes and wall surfaces, filtering pull shades or inexpensive curtains may be options for reducing this type of deterioration for significant interiors. Some acrylic sheeting comes with built-in ultraviolet filters.

Securing the building from catastrophic destruction from fire, lightning, or arson will require additional security devices. Lightning rods properly grounded should be a first consideration if the building is in an area susceptible to lightning storms. A high security fence should also be installed if the property cannot be monitored closely. These interventions do not require a power source for operation. Since many buildings will not maintain electrical power, there are some devices available using battery packs, such as intrusion alarms, security lighting, and smoke detectors which through audible horn alarms can alert nearby neighbors. These battery packs must be replaced every 3 months to 2 years, depending on type and usage. In combination with a cellular phone, they can also provide some level of direct communication with police and fire departments.

If at all possible, new temporary electric service should be provided to the building (see fig. 17). Generally a telephone

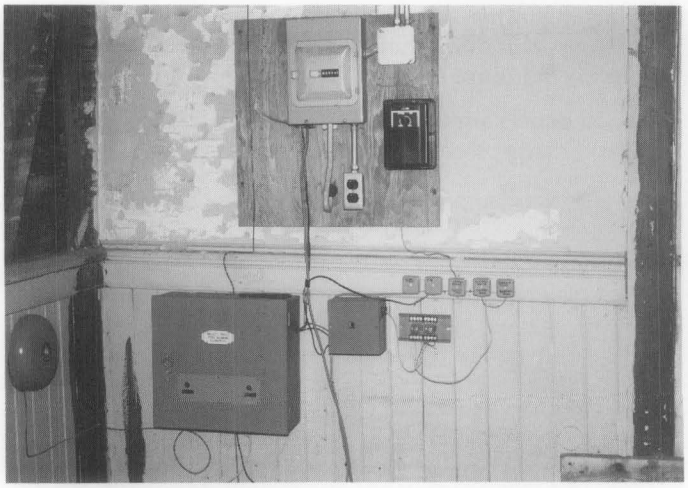


Figure 17. Security systems are very important for mothballed buildings if they are located where fire and security services are available. A temporary electric service with battery back-up has been installed in this building. Intrusion alarms and ionization smoke/fire detectors are wired directly to the nearby security service.

line is needed as well. A hard wired security system for intrusion and a combination rate-of-rise and smoke detector can send an immediate signal for help directly to the fire department and security service. Depending on whether or not heat will be maintained in the building, the security system should be designed accordingly. Some systems cannot work below 32°F (0°C). Exterior lighting set on a timer, photo electric sensor, or a motion/infra-red detection device provides additional security.

Providing adequate ventilation to the interior. Once the exterior has been made weathertight and secure, it is essential to provide adequate air exchange throughout the building. Without adequate air exchange, humidity may rise to unsafe levels, and mold, rot, and insect infestation are likely to thrive (see fig. 18). The needs of each historic resource must be individually evaluated because there are so many variables that affect the performance of each interior space once the building has been secured. A

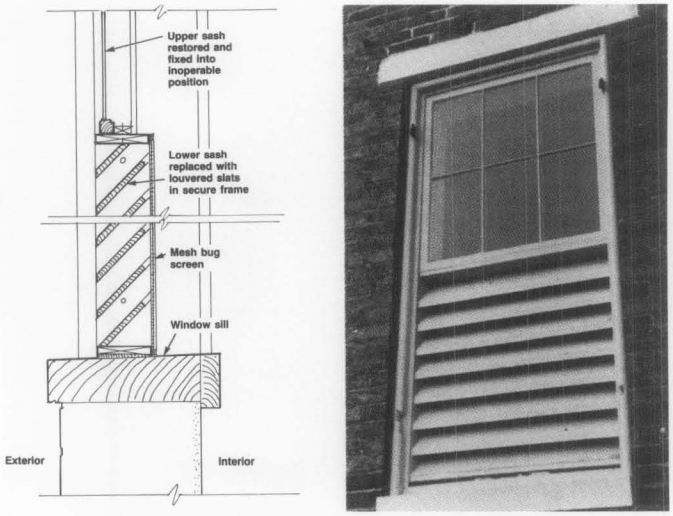


Figure 18. Heavy duty wooden slated louvers were custom fabricated to replace the deteriorated lower sash. The upper sash were rebuilt to retain the historic appearance and to allow light into this vacant historic building. Refer back to Fig. 1 for a view of the building. Photo: Charles E. Fisher, NPS. Drawing by Thomas Vitanza.

mechanical engineer or a specialist in interior climates should be consulted, particularly for buildings with intact and significant interiors. In some circumstances, providing heat during the winter, even at a minimal 45° F (7°C), and utilizing forced-fan ventilation in summer will be recommended and will require retaining electrical service. For masonry buildings it is often helpful to keep the interior temperature above the spring dew point to avoid damaging condensation. In most buildings it is the need for summer ventilation that outweighs the winter requirements.

Many old buildings are inherently leaky due to loose-fitting windows and floorboards and the lack of insulation. The level of air exchange needed for each building, however, will vary according to geographic location, the building's construction, and its general size and configuration.

There are four critical climate zones when looking at the type and amount of interior ventilation needed for a closed up building: hot and dry (southwestern states); cold and damp (Pacific northwest and northeastern states); temperate and humid (Mid-Atlantic states, coastal areas); and hot and humid (southern states and the tropics). (See fig. 19 for a chart outlining guidance on ventilation.)

Once closed up, a building interior will still be affected by the temperature and humidity of the exterior. Without proper ventilation, moisture from condensation may occur and cause damage by wetting plaster, peeling paint, staining woodwork, warping floors, and in some cases even causing freeze thaw damage to plaster. If moist conditions persist in a property, structural damage can result from rot or returning insects attracted to moist conditions. Poorly mothballed masonry buildings, particularly in damp and humid zones have been so damaged on the interior with just one year of unventilated closure that none of the interior finishes were salvageable when the buildings were rehabilitated.

The absolute minimum air exchange for most mothballed buildings consists of one to four air exchanges every hour; one or two air exchanges per hour in winter and often twice that amount in summer. Even this minimal exchange may foster mold and mildew in damp climates, and so monitoring the property during the stabilization period and after the building has been secured will provide useful information on the effectiveness of the ventilation solution.

There is no exact science for how much ventilation should be provided for each building. There are, however, some general rules of thumb. Buildings, such as adobe structures, located in hot and arid climates may need no additional ventilation if they have been well weatherized and no moisture is penetrating the interior. Also frame buildings with natural cracks and fissures for air infiltration may have a natural air exchange rate of 3 or 4 per hour, and so in arid as well as temperate climates may need no additional ventilation once secured. The most difficult

VENTILATION GUIDANCE CHART

CLIMATE	AIR EXCHANGES		VENTILATION				
Temperature and Humidity	Winter air exchange per hour	Summer air exchange per hour	Frame Buildings passive louvering % of openings louvered		Masonry Buildings passive louvering % of openings louvered		Masonry Buildings fan combination one fan + % louvered
			winter	summer	winter	summer	summer
hot and dry Southwestern areas	less than 1	less than 1	N/A	N/A	N/A	N/A	N/A
cold and damp Northeastern & Pacific northwestern areas	1	2-3	5%	10%	10%	30%	20%
temperate/humid Mid-Atlantic & coastal areas	2	3-4	10%	20%	20%	40%	30%
hot and humid Southern states & tropical areas	3	4 or more	20%	30%	40% or more	80%	40% or more

Figure 19. This is a general guide for the amount of louvering which might be expected for a medium size residential structure with an average amount of windows, attic, and crawl space ventilation. There is currently research being done on effective air exchanges, but each project should be evaluated individually. It will be noticed from the chart that summer louvering requirements can be reduced with the use of an exhaust fan. Masonry buildings need more ventilation than frame buidings. Chart prepared by Sharon C. Park, AIA and Ernest A. Conrad, PE.

buildings to adequately ventilate without resorting to extensive louvering and/or mechanical exhaust fan systems are masonry buildings in humid climates. Even with basement and attic vent grills, a masonry building many not have more than one air exchange an hour. This is generally unacceptable for summer conditions. For these buildings, almost every window opening will need to be fitted out with some type of passive, louvered ventilation.

Depending on the size, plan configuration, and ceiling heights of a building, it is often necessary to have louvered opening equivalent to 5%-10% of the square footage of each floor. For example, in a humid climate, a typical 20'x30' (6.1m x 9.1m) brick residence with 600 sq. ft.(55.5 sq.m) of floor space and a typical number of windows, may need 30-60 sq. ft.(2.75sq.m-5.5 sq. m) of louvered openings per floor. With each window measuring 3'x5'(.9m x 1.5 m) or 15 sq. ft. (1.3 sq.m), the equivalent of 2 to 4 windows per floor may need full window louvers.

Small pre-formed louvers set into a plywood panel or small slit-type registers at the base of inset panels generally cannot provide enough ventilation in most moist climates to offset condensation, but this approach is certainly better than no louvers at all. Louvers should be located to give cross ventilation, interior doors should be fixed ajar at least 4" (10cm) to allow air to circulate, and hatches to the attic should be left open.

Monitoring devices which can record internal temperature and humidity levels can be invaluable in determining if the internal climate is remaining stable. These units can be powered by portable battery packs or can be wired into electric service with data downloaded into laptop computers periodically (see fig. 20). This can also give long-term information throughout the mothballing years. If it is determined that there are inadequate air exchanges to keep interior moisture levels under control, additional passive ventilation can be increased, or, if there is electric service, mechanical exhaust fans can be installed. One fan in a small to medium sized building can reduce the amount of louvering substantially.

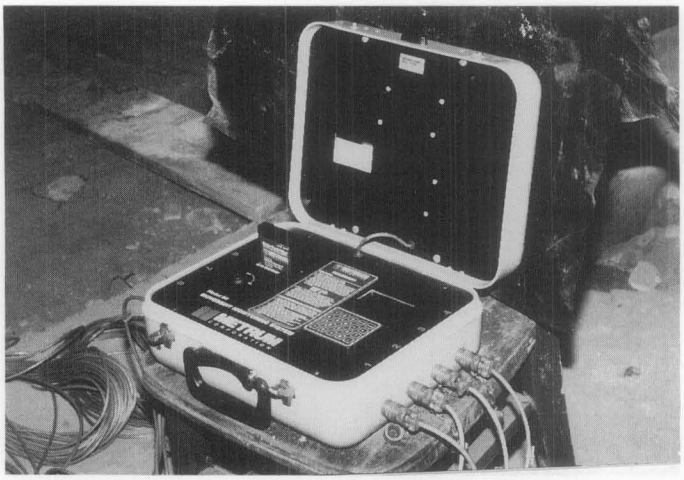


Figure 20. Portable monitors used to record temperature and humidity conditions in historic buildings during mothballing can help identify ventilation needs. This data can be downloaded directly into a lap top computer on site. These monitors are especially helpful over the long term for buildings with significant historic interiors or which are remaining furnished. If interiors are remaining damp or humid, additional ventilation should be added or the source of moisture controlled.

If electric fans are used, study the environmental conditions of each property and determine if the fans should be controlled by thermostats or automatic timers. Humidistats, designed for enclosed climate control systems, generally are difficult to adapt for open mothballing conditions. How the system will draw in or exhaust air is also important. It may be determined that it is best to bring dry air in from the attic or upper levels and force it out through lower basement windows (see fig. 21). If the basement is damp, it may be best to zone it from the rest of the building and exhaust its air separately. Additionally, less humid day air is preferred over damper night air, and this can be controlled with a timer switch mounted to the fan.

The type of ventilation should not undermine the security of the building. The most secure installations use custom-made grills well anchored to the window frame, often set in plywood security panels. Some vents are formed using heavy millwork louvers set into existing window openings (refer back to fig.18). For buildings where security is not a primary issue, where the interior is modest, and where there has been no heat for a long time, it may be possible to use lightweight galvanized metal grills in the window openings (refer back to fig.7). A cost effective grill can be made from the expanded metal mesh lath used by plasterers and installed so that the mesh fins shed rainwater to the exterior.

Securing mechanical systems and utilities. At the outset, it is important to determine which utilities and services, such as electrical or telephone lines, are kept and which are cut off. As long as these services will not constitute a fire

Figure 21. This electric thermostat/humidistat mounted in the attic vent controls a modified ducted air/fan system. The unit uses temporary exposed sheet metal ducts to pull air through the building and exhaust it out of the basement. For over ten years this fan system in combination with 18" x 18" preformed louvers in selective windows has kept the interior dry and with good air exchanges.

hazard, it is advisable to retain those which will help protect the property. Since the electrical needs will be limited in a vacant building, it is best to install a new temporary electric line and panel (100 amp) so that all the wiring is new and exposed. This will be much safer for the building, and allows easy access for reading the meter (see fig. 22).

Most heating systems are shut down in long term mothballing. For furnaces fueled by oil, there are two choices for dealing with the tank. Either it must be filled to the top with oil to eliminate condensation or it should be drained. If it remains empty for more than a year, it will likely rust and not be reusable. Most tanks are drained if a newer type of system is envisioned when the building is put back into service. Gas systems with open flames should be turned off unless there is regular maintenance and frequent surveillance of the property. Gas lines are shut off by the utility company.

If a hot water radiator system is retained for low levels of heat, it generally must be modified to be a self-contained system and the water supply is capped at the meter. This recirculating system protects the property from extensive damage from burst pipes. Water is replaced with a water/glycol mix and the reserve tank must also be filled with this mixture. This keeps the modified system from freezing, if there is a power failure. If water service is cut off, pipes should be drained. Sewerage systems will require special care as sewer gas is explosive. Either the traps must be filled with glycol or the sewer line should be capped off at the building line.

Figure 22. All systems except temporary electric have been shut off at this residence which has been mothballed over 20 years. An electric meter and 100 amp panel box have been set on a plywood panel at the front of the building. It is used for interior lighting and various alarm systems. The building, however, is showing signs of moisture problems with efflourescent stains on the masonry indicating the need for gutter maintenance and additional ventilation for the interior. The vegetation on the walls, although picturesque, traps moisture and is damaging to the masonry. Photo: H. Ward Jandl, NPS.

Developing a maintenance and monitoring plan. While every effort may have been made to stabilize the property and to slow the deterioration of materials, natural disasters, storms, undetected leaks, and unwanted intrusion can still occur. A regular schedule for surveillance, maintenance, and monitoring should be established: (See fig. 23 for maintenance chart).

MAINTENANCE CHART

periodic
- ❑ regular drive by surveillance
- ❑ check attic during storms if possible

monthly walk arounds
- ❑ check entrances
- ❑ check window panes for breakage
- ❑ mowing as required
- ❑ check for graffiti or vandalism

enter every 3 months to air out
- ❑ check for musty air
- ❑ check for moisture damage
- ❑ check battery packs and monitoring equipment
- ❑ check light bulbs
- ❑ check for evidence of pest intrusion

every 6 months; spring and fall
- ❑ site clean-up; pruning and trimming
- ❑ gutter and downspout check
- ❑ check crawlspace for pests
- ❑ clean out storm drains

every 12 months
- ❑ maintenance contract inspections for equipment/utilities
- ❑ check roof for loose or missing shingles
- ❑ termite and pest inspection/treatment
- ❑ exterior materials spot repair and touch up painting
- ❑ remove bird droppings or other stains from exterior
- ❑ check and update building file

Figure 23. Maintenance Chart. Many of the tasks on the maintenance chart can be done by volunteer help or service contracts. Regular visits to the site will help detect intrusion, storm damage, or poor water drainage.

The fire and police departments should be notified that the property will be vacant. A walk-through visit to familiarize these officials with the building's location, construction materials, and overall plan may be invaluable if they are called on in the future.

The optimum schedule for surveillance visits to the property will depend on the location of the property and the number of people who can assist with these activities. The more frequent the visits to check the property, the sooner that water leaks or break-ins will be noticed. Also, the more frequently the building is entered, the better the air exchange. By keeping the site clear and the building in good repair, the community will know that the building has not been abandoned (see fig. 24). The involvement of neighbors and community groups in caring for the property can ensure its protection from a variety of catastrophic circumstances.

The owner may utilize volunteers and service companies to undertake the work outlined in the maintenance chart. Service companies on a maintenance contract can provide yard, maintenance, and inspection services, and their reports or itemized bills reflecting work undertaken should be added to update the building file.

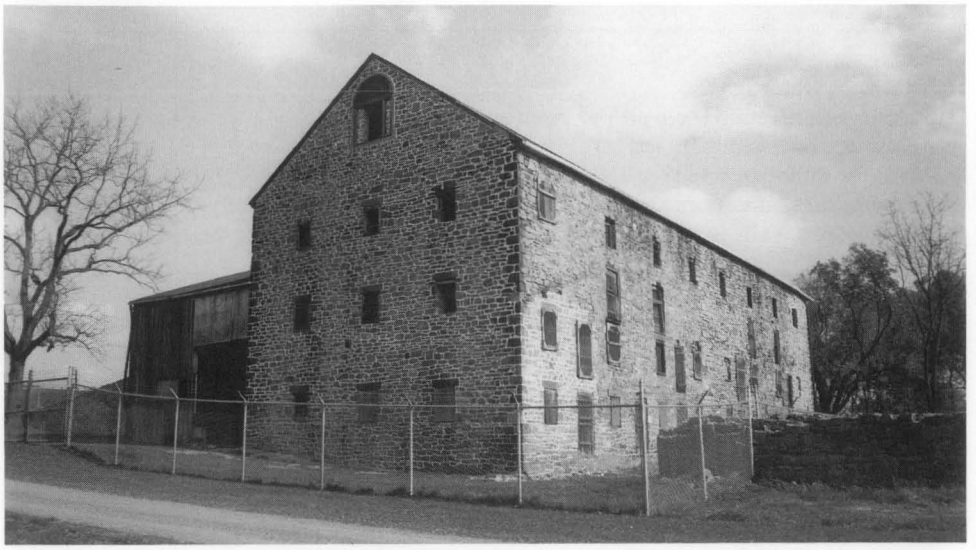


Figure 24. Once mothballed, a property must still be monitored and maintained. The openings in this historic barn has been modified with a combination of wood louvers and metal mesh panels which require little maintenance. The grounds are regularly mowed, even inside the chain link security fence. Photo: Williamsport Preservation Training Center, NPS.

Components of a Mothballing Project

Document: Brearley House, New Jersey; 2½ story center hall plan house contains a high degree of integrity of circa 1761 materials and significant early 19th century additions. Deterioration was attributable to leaking roof, unstable masonry at gables and chimneys, deteriorating attic windows, poor site drainage, and partially detached gutters. Mothballing efforts are required for approximately 7-10 years.

Stabilize: Remove bat droppings from attic using great caution. Secure historic chimneys and gable ends with plywood panels. Do not take historic chimneys down. Reroof with asphalt shingles and reattach or add new gutters and downspouts. Add extenders to downspouts. Add bug screens to any ventilation areas. Add soil around foundation and slope to gain positive drain; do not excavate as this will disturb archeological evidence.

Mothball: Install security fence around the property. Secure doors and windows with plywood panels (½" exterior grade). Install preformed metal grills in basement and attic openings. Add surface mounted wiring for ionization smoke and fire detection with direct wire to police and fire departments. Shut off heat and drain pipes. Add window exhaust fan set on a thermostatic control. Provide for periodic monitoring and maintenance of the property.

Figure 25. Above is a summary of the tasks that were necessary in order to protect this significant property while restoration funds are raised. Photographs: Michael Mills; Ford Farewell Mills Gatsch Architects.

a. A view showing the exterior of the house in its mothballed condition.

b. Plywood panels stabilize the chimneys. Note the gable vents.

c. The exhaust fan has tamper-proof housing.

MOTHBALLING CHECKLIST

Mothballing Checklist In reviewing mothballing plans, the following checklist may help to ensure that work items are not inadvertently omitted.	Yes	No	Date of action or comment.
Moisture • Is the roof watertight? • Do the gutters retain their proper pitch and are they clean? • Are downspout joints intact? • Are drains unobstructed? • Are windows and doors and their frames in good condition? • Are masonry walls in good condition to seal out moisture? • Is wood siding in good condition? • Is site properly graded for water run-off? • Is vegetation cleared from around the building foundation to avoid trapping moisture?			
Pests • Have nests/pests been removed from the building's interior and eaves? • Are adequate screens in place to guard against pests? • Has the building been inspected and treated for termites, carpenter ants, and rodents? • If toxic droppings from bats and pigeons are present, has a special company been brought in for its disposal?			
Housekeeping • Have the following been removed from the interior: trash, hazardous materials such as inflammable liquids, poisons, and paints and canned goods that could freeze and burst? • Is the interior broom-clean? • Have furnishings been removed to a safe location? • If furnishings are remaining in the building, are they properly protected from dust, pests, ultraviolet light, and other potentially harmful problems? • Have significant architectural elements that have become detached from the building been labeled and stored in a safe place? • Is there a building file?			
Security • Have fire and police departments been notified that the building will be mothballed? • Are smoke and fire detectors in working order? • Are the exterior doors and windows securely fastened? • Are plans in place to monitor the building on a regular basis? • Are the keys to the building in a secure but accessible location? • Are the grounds being kept from becoming overgrown?			
Utilities • Have utility companies disconnected/shut off or fully inspected water, gas, and electric lines? • If the building will not remain heated, have water pipes been drained and glycol added? • If the electricity is to be left on, is the wiring in safe condition?			
Ventilation • Have steps been taken to ensure proper ventilation of the building? • Have interior doors been left open for ventilation purposes? • Has the secured building been checked within the last 3 months for interior dampness or excessive humidity?			

Figure 26.. MOTHBALL CHECKLIST. This checklist will give the building owner or manager a handy reference guide to items that should be addressed when mothballing a historic building. Prepared by H. Ward Jandl, NPS.

Conclusion

Providing temporary protection and stabilization for vacant historic buildings can arrest deterioration and buy the owner valuable time to raise money for preservation or to find a compatible use for the property. A well planned mothballing project involves documenting the history and condition of the building, stabilizing the structure to slow down its deterioration, and finally mothballing the structure to secure it (See fig. 25). The three highest priorities for the building while it is mothballed are 1) to protect the building from sudden loss, 2) to weatherize and maintain the property to stop moisture penetration, and 3) to control the humidity levels inside once the building has been secured. See Mothballing Checklist Figure 26.

While issues regarding mothballing may seem simple, the variables and intricacies of possible solutions make the decision-making process very important. Each building must be individually evaluated prior to mothballing. In addition, a variety of professional services as well as volunteer assistance are needed for careful planning and repair, sensitively designed protection measures, follow-up security surveillance, and cyclical maintenance (see fig. 27).

In planning for the future of the building, complete and systematic records must be kept and generous funds allocated for mothballing. This will ensure that the historic property will be in stable condition for its eventual preservation, rehabilitation, or restoration.

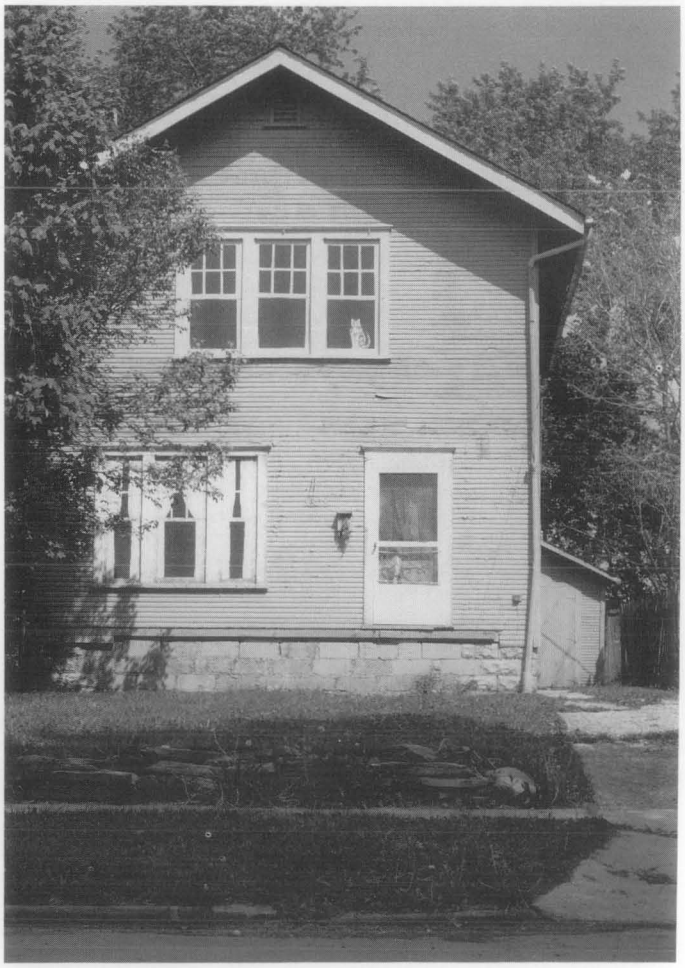


Figure 27. This residential building blends into its neighborhood even though all the windows have been covered over and the front steps are missing. The grounds are maintained and the special attention to decoratively painting the window panels shows that the property is being well cared for until it can be rehabilitated. Photo: Ohio Historical Society.

Acknowledgements

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Comments on the usefulness of this publication may be directed to H. Ward Jandl, Deputy Chief, Preservation Assistance Division, National Park Service, P.O. Box 37127, Washington, D.C. 20013-7127. This publication is not copyrighted and can be reproduced without penalty. Normal procedures for credit to the author and the National Park Service are appreciated.

The author, Sharon C. Park, Senior Historical Architect, Preservation Assistance Division, National Park Service, would like to acknowledge the assistance of the following individuals in the preparation and review of this publication. H. Ward Jandl served as the technical editor and assisted with producing this Preservation Brief. In addition the following persons have provided invaluable information and illustrations: Ernest A. Conrad, PE; Doug Hicks, NPS Williamsport Preservation Training Center; Thomas C. Taylor, Colonial Williamsburg; Karen Gordon, Seattle Urban Conservation Office; Kevin B. Stoops, Seattle Department of Parks and Recreation; Michael Mills, AIA; Christine Henry, architect, Mary Beth Hirsch, Ohio Historical Society. Thanks also to Preservation Assistance Division staff members Michael J. Auer, Anne E. Grimmer, Kay D. Weeks, Timothy A. Buehner, and Jean Travers, and to the numerous staff members of the NPS Regional offices who submitted comments.

All photographs and drawings are by the author unless otherwise noted.

Cover photograph: Mothballing of this historic house involved a new membrane roof covering over the historic roof and slatted window covers for security and ventilation. Photo: Williamsport Preservation Training Center, NPS.

ISSN: 0885-7016
September 1993

Further Reading

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Solon, Thomas E. "Security Panels for the Foster-Armstrong House." *Association for Preservation Technology Bulletin.* Vol XVI no. 3 & 4, 1984. (note the design of the panels, but be aware that additional louvering may be needed on other projects).

Appendix D

Article by Thomas E. Solon entitled "Security Panels for the Foster-Armstrong House," as Referenced in SMS Architects' Mothballing Reports for Individual Buildings on the RLA South Campus

Security Panels for the Foster-Armstrong House
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Source: *Bulletin of the Association for Preservation Technology*, Vol. 16, No. 3/4, National Park Service (1984), pp. 70-73
Published by: Association for Preservation Technology International (APT)
Stable URL: http://www.jstor.org/stable/1494042
Accessed: 11-07-2017 18:54 UTC

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SECURITY PANELS FOR THE FOSTER-ARMSTRONG HOUSE

Thomas E. Solon, AIA*

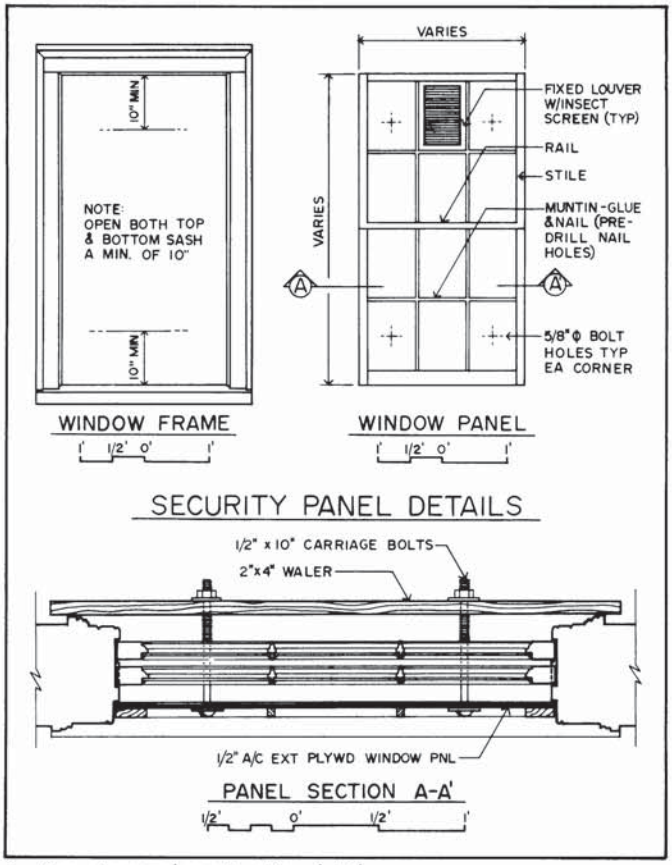
The authorization of the Delaware Water Gap National Recreation Area (DEWA) by Congress in 1965[1] set in motion several years of land acquisition. During these years a multitude of historic structures were placed under the care and protection of the National Park Service. Budgetary constraints did not allow for the immediate restoration and utilization of these historic structures. Therefore, many structures were mothballed until such time as funds became available. Utilities were disconnected and anything from old floor boards to sheets of plywood were nailed directly to the face of door and window frames to "protect" these unused historic structures. The boards would have to be pried off each time a building was entered or when daylight was needed to carry out surveys or interior repairs. Damage was cumulative each time the boards were removed and reinstalled. Indeed, the crowbar proved to be more damaging to historic fabric than the nails.

An even greater negative impact to each building, however, was the effect that the solid covers had on ventilation. Since these unheated structures were unable to breathe, the interior finishes were deteriorating rapidly.

During this period of mothballing, many secured structures were nevertheless vandalized; some were even burned to the ground. And while these atrocities could be directly attributed to the controversial origins of DEWA,[2] there is little doubt that the unattractive manner in which the structures were boarded up was also a contributing factor.

An improved window cover designed to overcome these problems was developed for the historic Foster-Armstrong House[3] when that building was stabilized by the National Park Service in 1982-83.[4] The new security panels would serve to protect the structure until restoration was undertaken in 1984. Intrinsically they were designed to be:

1. Easily removable from the inside.
2. Tamper-proof from the outside.
3. Capable of introducing outside air to ventilate the structure.



2. Security panel construction details.

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1. Foster-Armstrong House, Sussex County, New Jersey (c. 1790-1812), photo taken in 1982 before stabilization. (*photo by author*)

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4. Attractive, giving an impression that the structure is being cared for and that further improvements are forthcoming.

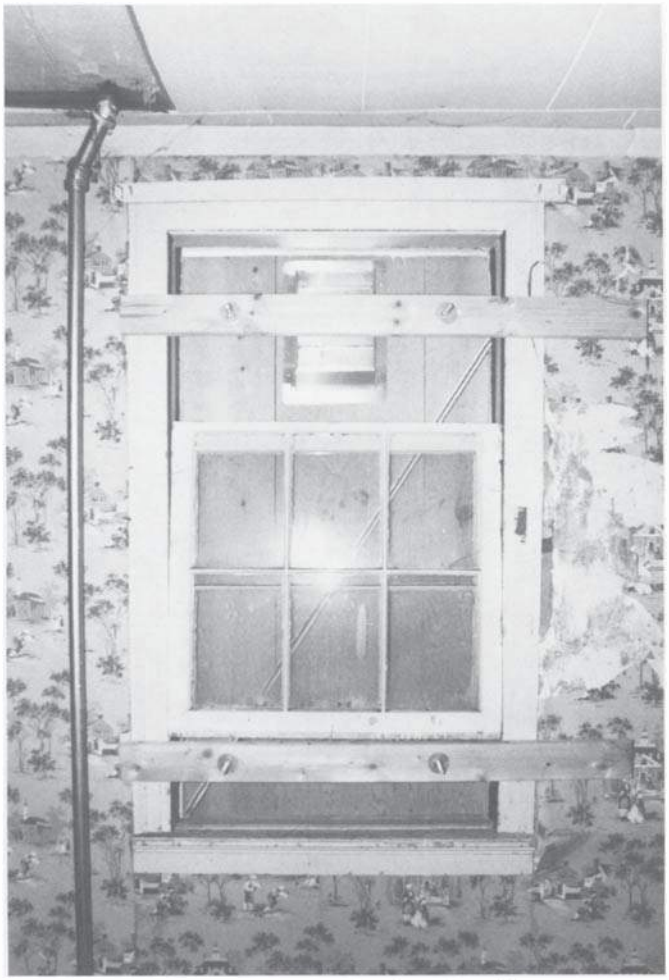
The security panels (Fig. 2) were constructed of 1/2" thick exterior grade plywood, sized to fit into the rabbeted surrounds of the historic window frames (where shutters or storm windows were originally placed). The plywood panel was through-bolted to easily removable horizontal 2 x 4 wood walers located on the interior using 1/2" diameter carriage bolts (Fig. 3). When these bolts are drawn tight, the panels are exceptionally tamper-resistant.[5] Ventilation was introduced using ordinary aluminum gable wall vents with integral louvers and insect screening (the type available at any lumber yard).

To achieve "attractiveness," the panels could have been painted medium gray. However, the Foster-Armstrong House has high visibility on a heavily traveled highway. In addition, it was going to be offered for lease under the Historic Property Leasing Program.[6] Prospective tenants would have to be awakened to the full potential of this elegant structure which had stood in disrepair for several years. With this in mind, the security panels were fabricated to simulate the historic 6/6 sash (Fig. 4). A trompe d'oeil effect could have been accomplished by painting the panels white, masking out the muntins, stiles and rails and painting the "glass" medium gray, however, the project architects instead applied millwork to the plywood to suggest muntins, stiles and rails, thus giving the covers a three-dimensional appearance (and additional rigidity). The finished panels simulated the original 6/6 sash. The aluminum vent was neatly inserted into the top center "light" of the "upper sash." The overall result was very effective, especially as seen from the highway (Fig. 5).

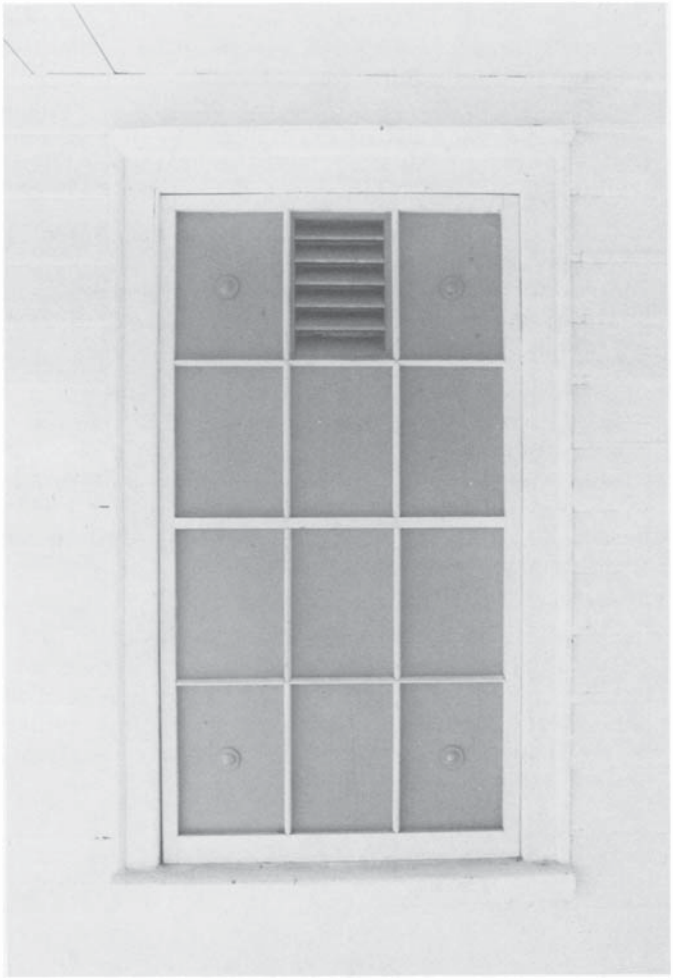
Admittedly, this was not an inexpensive window cover. And while the millwork could have been simplified or eliminated entirely in favor of a one-dimensional panel, the panels, as constructed were a great success.

The local population took a renewed interest in the Foster-Armstrong House following its stabilization. Having once contemplated constructing a new town hall, they are now negotiating with the National Park Service to lease and adaptively reuse the building.[7]

Future stabilization projects for DEWA structures of less significance or visibility may omit the applied millwork on security panels while retaining the removable and ventilating features. Meanwhile, it is hoped that



3. Interior view of completed panel. (*photo by author*)



4. Exterior view of completed panel. (*photo by author*)

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5. The Foster-Armstrong House after stabilization was completed in 1983. (*photo by author*)

existing surface nailed window covers can at least be retrofitted with aluminum vents and, as funds and manpower become available, secured, using the interior wood waler system.

In conclusion, it must be noted that these are only temporary measures, used to protect and secure structures awaiting future restoration and utilization. As one step of a responsible stabilization program, properly designed security panels will help protect mothballed structures from avoidable demolition by neglect.

Footnotes:

1. This 70,000-acre, 38-mile-long, scenic national recreation area lies along the Pennsylvania and New Jersey banks of the Delaware River. Farm sites and rural villages are located in the relatively unspoiled flatlands along the river. Trails lead to remote scenic natural areas of waterfalls, hidden lakes, and hemlock ravines. The river flows through the famous gap in the Kittatinny Ridge at the southern end of the park.
2. For flood control, the Federal Government had originally intended to dam the Delaware River at Tocks Island, creating a 12,000 acre reservoir. This was to have been a center piece of a 70,000 acre park. While acquiring the land at least 8,000 residents in both states were evicted and more than 3,000 houses, stores, churches and farmhouses were bulldozed or moved. Eventually, as a result of a grassroots protest, the dam project was shelved and in 1978 the area was placed into the Wild and Scenic Rivers system to be preserved in its natural state.
3. The Foster-Armstrong House is located in Sussex County, New Jersey along the Old Mine Road and was built between 1790 and 1812 by Julius Foster, a millwright from Long Island, N.Y. and James Armstrong, a shoemaker from Frankford, New Jersey and is notable for its gambrel roof with bell eaves, a handsomely detailed "Dutch" entrance door crowned by a Federal period transom and a large cooking fireplace in the stone kitchen wing which is flanked by a "beehive" oven protruding to the outside.
4. Stabilization plans and specifications were prepared by Project Architects Ken Bennett and Roger Evans of the Denver Service Center while the construction contract was awarded to the construction firm of LeRoy E. Shoesmith of Cresco, Pennsylvania. Construction was overseen by the author.
5. While the origin of this system is uncertain, it probably evolved from construction detailing of concrete formwork. Note that carriage bolts of lesser diameter would have sufficed. Also, users of these panels have suggested replacing the hex nuts with wing nuts. The panels could then be loosened or tightened without the use of tools.
6. Historic structures are offered for leases by the National Park Service under the Historic Property Leasing Program as authorized by Section 111 of the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by Public Law 96-515.
7. John Bruce Dodd, AIA, Historical Architect at DEWA has prepared plans and specifications for the adaptive restoration. Work began in the fall of 1984.

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