Board Questions April 24, 2019

Director Kishimoto

Item 4 - 3 historic structures

* possible to get photos of the three?

Yes, see attached site photos of the three structures (Attachment 1)

* is goal to just "allow exterior viewing" or allow staff/contractors to occasionally enter safely to monitor and do maintenance?

The goal is to allow exterior viewing for the public, no public entry into the structures. Staff/contractors may safely enter to monitor and do maintenance

* if I want to see the historic reports by consultants, is there a PDF or I can borrow the documents (after the meeting is fine or I will be at Midpen tomorrow at 12 to go wildflower training)

LHC White Barn Historic Report (Attachment 2)
Beatty Historic Report (Note: this summary report was done for both Beatty and the Bear Creek Stables) (Attachment 3)
Redwood Cabin (Attachment 4)

Item 3 - White Barn

* same question - how to view the historic report

Report Attached (Attachment 5)

* Also, is there a reason why most of the barn is closed to public? safety reasons or just nothing to see?

Both safety and nothing to see. The interior of the barn is mainly used for storage so there's not much to see. Most of the interior (such as floor, roof height, and stairs) are not ADA compliant so it poses safety concerns.

Item 8 - still reviewing but a couple preliminary questions:

* solar panels: covering 80% of roof - how many kW estimated to produce - what percentage of building needs if we have rough estimate based on average use?

80% covered roof with PV would produce 187kw; however, this amount isn't realistic due to shade of trees/mechanical, and the subtraction of fire department's walkways.

60% covered roof with PV would produce about 140kw. This amount would be less than half of what is needed to cover our expected use.

Question from General Manager Ana Ruiz: One remaining question though to help answer all the questions raised: do the use of clouds require more energy use to warm/cool the space since the clouds create more 3D space that needs to be controlled? Is this true as compared to ceiling tiles, or is the difference negligible?

Regarding your questions on ceiling clouds, acoustic ceiling tiles and energy use, the answer is no, ceiling clouds do not require more energy use as the heated or cooled air would move easily in between the ceiling clouds. Acoustic ceiling tiles are porous and warm/cool air circulates through them also, but not as easily as with the clouds; however, the difference is negligible.

I also checked with our consultant and he indicated that the energy used in a space is much more determined by things like solar gain, lighting and people. The difference between a ceiling cloud and acoustic ceiling doesn't really register compared to those factors.

* impact on climate plan reduction goal - AO is 75% of District's electricity use. And electricity use is what percent of our climate emissions?

Electricity use is 4.8% of our total GHG emissions where, AO's electricity use would be 75% of 5% = 3.6% of the District's total GHG emissions.

* ceiling clouds - report says they reduce noise - is that true? It would seem rooms with ceiling clouds vs. conventional tiles use more heat and maybe absorb less noise - ?

Ceiling clouds absorb sound across their entire surface as these are hung parallel to the ceiling. Sound absorption is achieved at two points. It is absorbed at the bottom face of the cloud as the sound travels toward the underside of the slab above. Sound is also absorbed at the top face of the cloud as it bounces back to the floor.

*** Room for recycling ?** Recycling will continue to change but please make sure there is some wiggle room for containers

Noll & Tam will ensure of this. There is allocated space in the rear of the building as it has the opportunity to be flexible in size.

* **Exterior lighting** of building, trees, safety lighting for night meetings to parking, out to sidewalk? (what page?)

The current code requires path of travel lighting. This means from El Camino Real, up the ramp, across the plaza to the entrance. Noll & Tam will meet with Midpen staff about supplementing existing lighting in areas beyond that.

* **LED checklist -** the energy and atmosphere assume which scenario?

The LEED chart was done in early Dec 2018 and is conservative. As it was unclear at the time of which mechanical scheme we would be using, many of the points are in the "question" category. With new mechanical equipment, we will get more. If we re-use the existing equipment, it should not change much.

* **LED checklist -** location and transportation - why zero points out of 16 for LED for Neighborhood Development Location?

Because under the "Location and Transportation" credit if we take points in LTc1 "Neighborhood Development Location" we are not allowed to take points in the remaining category credits. It's a USGBC rule. We get more points this way.

* **Sound -** are acoustic tiles included?

Yes

SITE PHOTOS

Interior Photo of La Honda Creek Redwood Cabin

Exterior Photo of La Honda Creek Redwood Cabin and Deck

Exterior Photo of La Honda Creek Redwood Cabin through the Trees

Exterior Photo of La Honda Creek Redwood Cabin and Deck

Exterior Photo of La Honda Creek White Barn

Exterior Photo of La Honda Creek White Barn

Exterior Photo of La Honda Creek White Barn and Road/Path in Front of it

Exterior Photo of Sierra Azul Beatty Property Home

Exterior Photo of Sierra Azul Beatty Property Home

Interior Photo of Sierra Azul Beatty Property Home

Interior Photo of Sierra Azul Beatty Property Home

HISTORICAL RESOURCE EVALUATION OF THE DYER BARN

LA HONDA CREEK OPEN SPACE PRESERVE

UNINCORPORATED SAN MATEO COUNTY, CALIFORNIA

LSA

February 2018

HISTORICAL RESOURCE EVALUATION OF THE DYER BARN

LA HONDA CREEK OPEN SPACE PRESERVE

UNINCORPORATED SAN MATEO COUNTY, CALIFORNIA

Submitted to:

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Project No. MOS1706

LSA

February 2018

EXECUTIVE SUMMARY

LSA prepared a historical resource evaluation (HRE) of the Dyer Barn, part of the former the 615-acre Dyer Ranch, a 250-acre portion of which is owned and managed by the Midpeninsula Regional Open Space District (District). The Dyer Barn is located on Assessor Parcel Number 075-330-220, encompassing 90.7-acres in a rural setting within the La Honda Creek Open Space Preserve in unincorporated San Mateo County, California (Figures 1 and 2). The Dyer Barn is a rectangular wood-frame, single-crib barn built circa 1860 on an open, sloping hillside site with two other detached buildings in the vicinity. These buildings consist of (1) a contemporary single-story, approximately 3,100 square-foot, single-family residence built circa 1948 approximately 280 feet northeast of the Dyer Barn; and (2) a two-story, approximately 2,000-square-foot garage built circa 1950 approximately 120 feet to the east of the Dyer Barn. A paved driveway leads from a gate at Allen Road to the main yard.

This HRE evaluates the eligibility of the Dyer Barn for inclusion in the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register). For the purposes of this evaluation, the "Dyer Barn" refers only to the subject barn built circa 1860 and does not include the residence and garage referenced above. This HRE is based on background research, an architectural field survey, and the application of evaluative criteria for the National Register, found at 36 CFR §60.4; and for the California Register, found at California Public Resources Code §5024.1. The Dyer Barn was part of a larger ranch property formerly owned by Calvin and Dora Dyer, with additional buildings (since demolished circa 2012) located south and east of the Dyer Barn.

This HRE documents the methods and results of the evaluation. Based on background research and a field survey, LSA concludes that the Dyer Barn appears individually eligible for inclusion in both the National Register and the California Register at the local level of significance under Criterion A/1 for association with the early development of the ranching industry in the La Honda area; under Criterion C/3 for its vernacular architectural qualities; and under Criterion D/4 for its notable example as a local variation of the Vernacular architectural style, use of local materials, and as an example of mortise-and-tenon joinery construction that may yield information important to history. For these reasons, the Dyer Barn qualifies as a "historical resource" for the purposes of the California Environmental Quality Act (CEQA), as defined at Public Resources Code (PRC) §21084.1. This HRE also includes, in an appendix, the *Dyer Barn Structural Conditions Assessment and Treatment Recommendations* prepared by Charles Duncan, preservation architect with Interactive Resources, Inc.

TABLE OF CONTENTS

1.0 INTRODUCTION 4
1.1 Project Site and Description 4
1.1 Project Description 7
2.0 REGULATORY CONTEXT 8
2.1 National Historic Preservation Act 8
2.1.1 Section 106 of the National Historic Preservation Act 8
2.1.2 National Register of Historic Places 8
2.2 California Environmental Quality Act 9
2.2.1 California Register of Historical Resources 10
2.3 Midpeninsula Regional Open Space District 12
2.3.1 Cultural Resource Goals, Policies, and Implementation Measures 12
2.4 Integrity 15
2.5 Eligibility 16
3.0 METHODS 17
3.1 Records Search 17
3.2 Literature and Map Review 18
3.3 Archival Research 18
3.4 Field Survey 18
4.0 RESEARCH AND FIELD SURVEY RESULTS 19
4.1 Records Search 19
4.2 Literature and Map Review 19
4.3 Archival Research 23
4.4 Field Survey 23
5.0 ELIGIBILITY EVALUATION 25
5.1 Historic Context 25
5.1.1 Early Settlement 25
5.1.2 San Mateo County 25
5.1.3 Dyer Barn 27
5.2 Architectural Context 28
5.2.1 Vernacular 28
5.2.2 Barns 29
5.3 Eligibility Evaluation 30
5.3.1 Application of National Register/California Register Criteria 30
5.3.2 Integrity Assessment 32
5.4 Conclusion 33
6.0 REFERENCES CONSULTED 34

APPENDICES

A: California Department of Parks and Recreation 523 Series Form record

B: Structural Conditions Assessment and Treatment Recommendations

FIGURES AND TABLES

FIGURES

Figure 1: Regional Location and Project Site 5
Figure 2: Project Site 6

TABLES

Table A: Archival Map and Aerial Photograph Review 20

1.0 INTRODUCTION

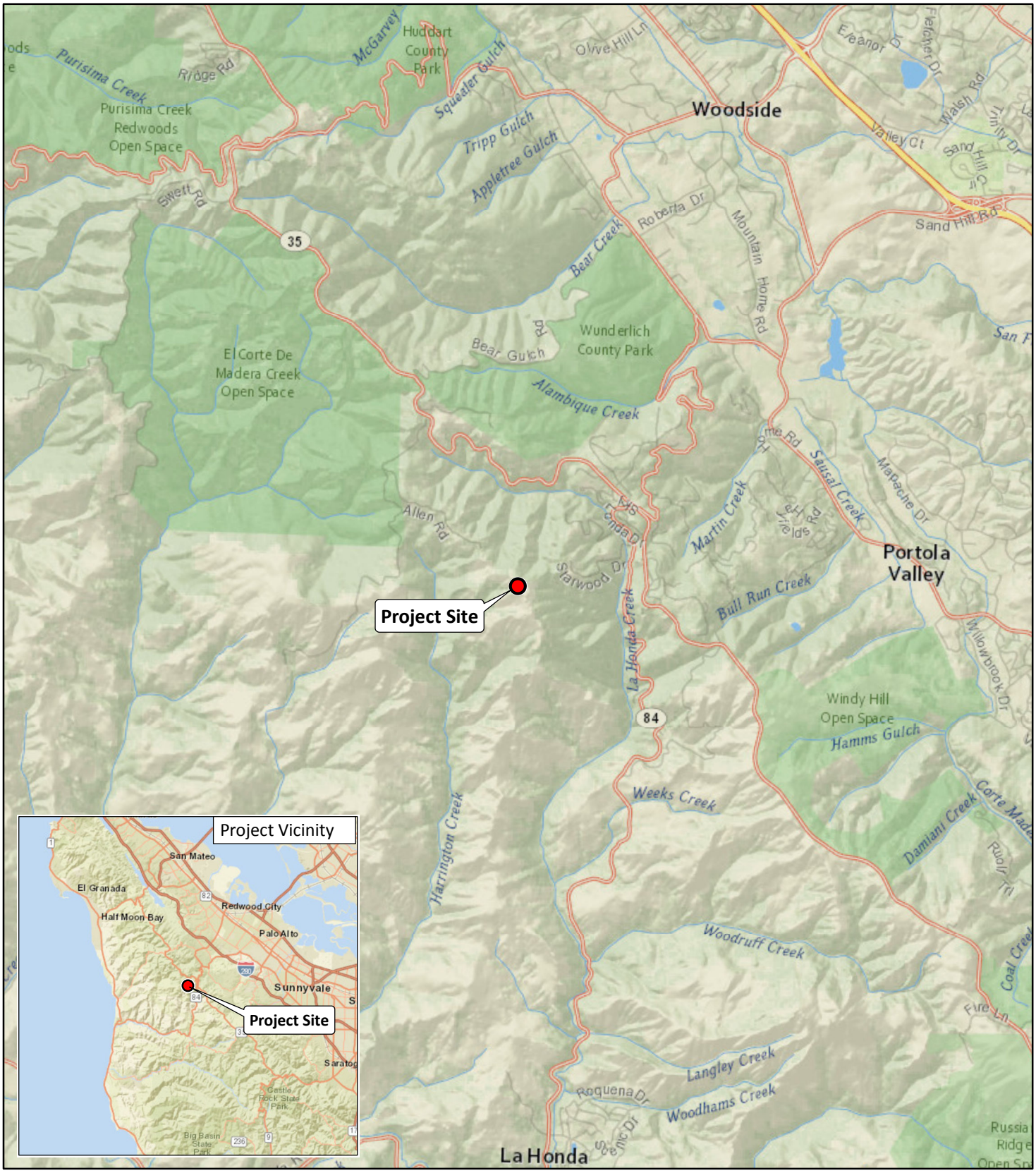
This report presents the results of an eligibility evaluation of a rectangular wood-frame, single-crib barn built circa 1860 in the La Honda Creek Open Space Preserve in central unincorporated San Mateo County (Figures 1 and 2). Locally known as the Dyer Barn (also referred to as the "La Honda White Barn"), the project site is approximately 7.8 miles due southwest of downtown Redwood City on APN 075-330-220, a 90.7-acre parcel in rural San Mateo County. For the purposes of this evaluation, the "Dyer Barn," "La Honda White Barn", or "project site" will refer to only the rectangular, wood-frame, single-crib barn built circa 1860 and will be referred to in this report as "Dyer Barn." The immediate setting consists of an open sloping hillside site with two other detached buildings in the vicinity. These buildings consist of (1) a contemporary single-story, approximately 3,100 square-foot, single-family residence built circa 1948 approximately 280 feet northeast of Dyer Barn, and (2) a two-story, approximately 2,000 square-foot large two story garage built circa 1950 approximately 120 feet to the east of Dyer Barn. These two buildings are not addressed in this report.

The purpose of this HRE is to provide the Midpeninsula Regional Open Space District (District) with information regarding Dyer Barn's status as a historical resource under CEQA so to assist the District with resource management and future project planning. LSA conducted background research, a field survey, and resource recordation to prepare this study. This report includes (1) a description of the regulatory context for cultural resources in the project site; (2) a summary of the methods used to prepare the analysis; (3) a description of the Dyer Barn; and (4) a combination National Register and California Register eligibility evaluation.

The methods, analysis, and conclusions of the HRE are presented in this report. Please see Appendix A for Department of Parks and Recreation 523 Series forms for the Dyer Barn; and Appendix B for a *Structural Conditions Assessment and Treatment Recommendations* report prepared by Charles Duncan, Preservation Architect, and Al Whitecar, Structural Engineer with Interactive Resources (IR). The IR analysis of the Dyer Barn assesses its current structural condition, identifies its character-defining features, and provides conceptual treatment recommendations to stabilize the barn and maintain its historic integrity.

1.1 PROJECT SITE AND DESCRIPTION

The project site is located in central unincorporated San Mateo County. Dyer Barn is located off Allen Road, approximately 1.4 miles due south of the intersection of Bear Gulch Road and Skyline Boulevard/State Route 35 (SR 35). South of Dyer Barn contains a wide, ridgetop clearing and offers expansive views of the Santa Cruz Mountains and the community of San Gregorio to the south and the coastline to the west; views to the north and east are blocked by a steep ridge. The project site is approximately 2,150 feet above sea level in rolling grassland with ravines of oak and redwood woodland with tanbark oak, canyon live oak, and chaparral. Other than the Dyer Barn and two mid-20th century buildings to the east and northeast of Dyer Barn, the remainder of APN 075-330-220 consists of exposed prairie with steep, oak- and redwood-studded ravines to the west.



LSA

FIGURE 1

Historical Resource Evaluation of the Dyer Barn
La Honda Creek Open Space Preserve
Unincorporated San Mateo County, California

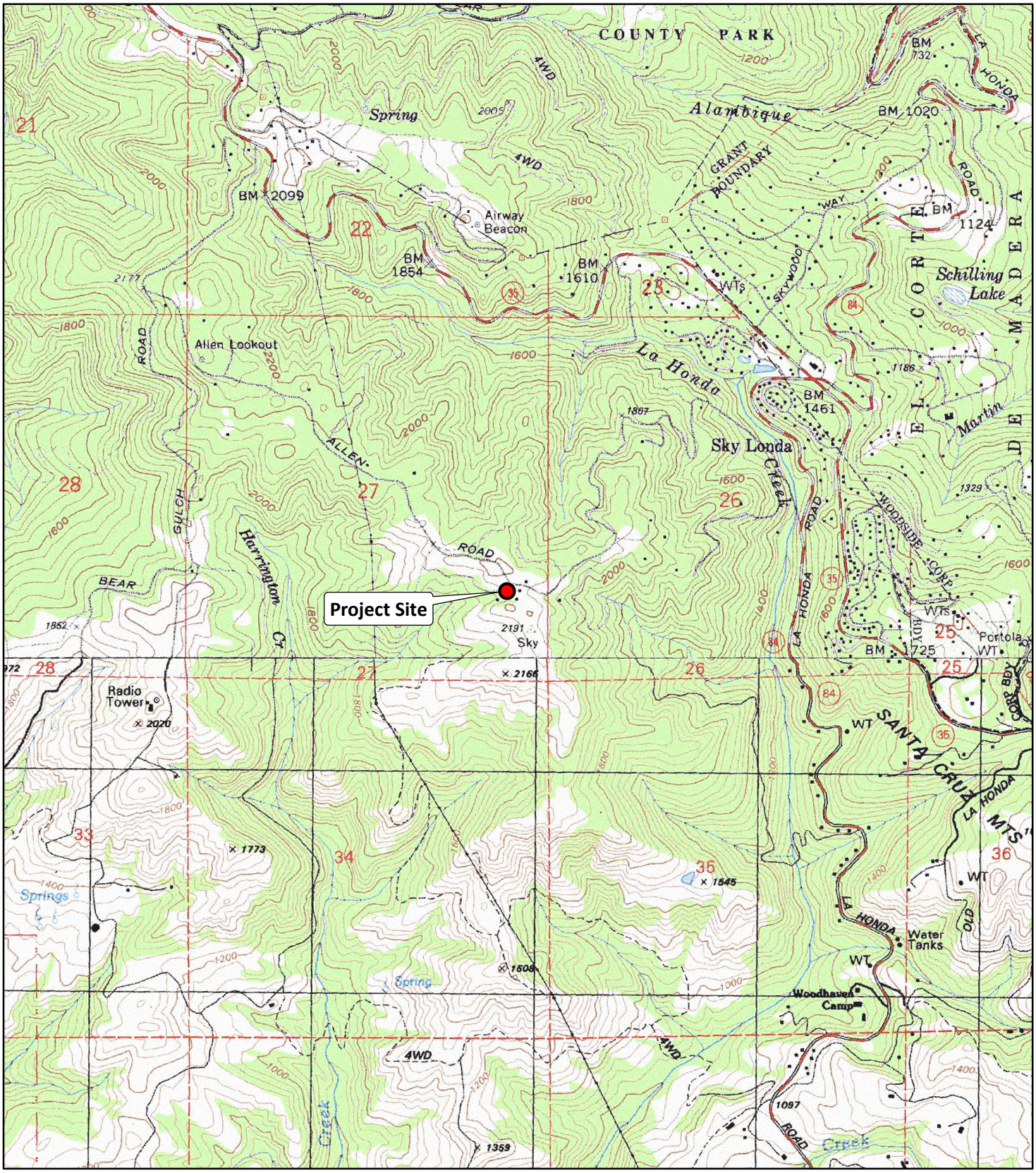
N

0 0.5 1
MILES

Regional Location and Project Site

SOURCE: Esri World Street Map and National Geographic World Map.

I:\MOS1706\GIS\Maps\Cultural\Figure 1_Regional Location and Project Site.mxd (11/20/2017)



LSA

FIGURE 2

Historical Resource Evaluation of the Dyer Barn
La Honda Creek Open Space Preserve
Unincorporated San Mateo County, California

0 1000 2000
FEET

Project Site

SOURCE: USGS 7.5-minute Topo: *Woodside, Calif.* (1973) and *La Honda, Calif.* (1968).

I:\MOS1706\GIS\Maps\Cultural\Figure 2_Project Site.mxd (11/20/2017)

1.1 Project Description

The District is exploring addressing repairs to the Dyer Barn which is anticipated to include foundation shoring, addressing deferred maintenance, and replacing decayed materials to stabilize and secure the Dyer Barn. The District is also contemplating plans for the Dyer Barn to remain as a possible future interpretive element on the landscape. To facilitate these efforts and assist future management decisions for the treatment of the Dyer Barn, the District is seeking to clarify the eligibility of the Dyer Barn for inclusion in the National Register of Historic Places (National Register) and California Register of Historical Resources (California Register).

2.0 REGULATORY CONTEXT

2.1 NATIONAL HISTORIC PRESERVATION ACT

The National Historic Preservation Act (NHPA) (16 USC §470) was enacted by Congress in 1966 to establish national policy for historic preservation in the United States. The NHPA created the Advisory Council on Historic Preservation (ACHP) as an independent federal agency to advise the President and Congress on matters involving historic preservation, as well as to review and be afforded the opportunity to comment on all actions undertaken, licensed, or funded by the federal government that may have an effect on properties listed in the National Register, or eligible for National Register listing. National Register Bulletin 15, *How to Apply the National Register Criteria for Evaluation*, states:

> *Preserving historic properties as important reflections of our American heritage became a national policy through passage of the Antiquities Act of 1906, the Historic Sites Act of 1935, and the National Historic Preservation Act of 1966, as amended. . . The National Historic Preservation Act of 1966 authorized the Secretary to expand this recognition to properties of local and State significance in American history, architecture, archaeology, engineering, and culture, and are worthy of preservation. The National Register of Historic Places is the official list of the recognized properties, and is maintained and expanded by the National Park Service on behalf of the Secretary of the Interior* [National Park Service 1991:i].

The NHPA establishes the role and responsibilities of the federal government in historic preservation. Toward this end, the NHPA directs agencies (1) to identify and manage historic properties under their control; (2) to undertake actions that will advance the NHPA's provisions, and avoid actions contrary to its purposes; (3) to consult with others while carrying out historic preservation activities; and (4) to consider the effects of their actions on historic properties.

2.1.1 Section 106 of the National Historic Preservation Act

If a project is subject to federal jurisdiction and is an undertaking, as defined at 36 CFR §800.16(y), with the potential to result in effects on historic properties (36 CFR §800.3(a)), Section 106 of the NHPA must be addressed to take into account the effect of the undertaking on any district, site, building, structure, or object included in or eligible for inclusion in the National Register (i.e., historic properties). The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, "Protection of Historic Properties" (36 CFR §800), became effective August 5, 2004. Section 106 review must be conducted for all federal, federally assisted, federally licensed, or federally funded projects. The regulations that implement Section 106 and outline the historic preservation review process are at 36 CFR §800.

2.1.2 National Register of Historic Places

The National Register was authorized by the NHPA as the Nation's official list of cultural resources worthy of preservation. The National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the National Register consist of districts, sites, buildings, structures,

and objects significant in American history, architecture, archeology, engineering, and culture (National Park Service 2001). Properties listed in or eligible for listing in the National Register are considered in planning and environmental review, and effects to such properties are primarily addressed under Section 106. The National Park Service, which administers the National Register, developed evaluation criteria to determine whether a cultural resource has significance as a historic property. Cultural resources that meet the significance criteria and retain their historic integrity (i.e., the ability to convey their significance) are eligible for listing in the National Register. The National Register eligibility criteria are discussed below.

2.1.2.1 Significance Criteria. Four evaluation criteria are applied to the property in which the property's significance for its association with important events or persons, importance in design or construction, or information potential is assessed (National Park Service 1991:11).These criteria defined at 36 CFR §60.4 and are as follows: ". . . the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history."

Under Criteria A, B, and C, the National Register places an emphasis on a resource appearing like it did during its period of significance to convey historical significance; under Criterion D, properties convey significance through the information they contain (National Park Service 2000:38).

2.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA applies to all discretionary projects undertaken or subject to approval by the state's public agencies (California Code of Regulations [CCR] Title 14(3) §15002(i)). CEQA states that it is the policy of the State of California to "take all action necessary to provide the people of this state with… historic environmental qualities…and preserve for future generations examples of the major periods of California history" (Public Resources Code [PRC] §21001(b), (c)). Under the provisions of CEQA, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (CCR Title 14(3) §15064.5(b)).

CEQA §21084.1 defines a "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources (California Register);
- Listed in a local register of historical resources (as defined at PRC §5020.1(k));
- Identified as significant in a historical resource survey meeting the requirements defined at PRC §5024.1(g); or
- Determined to be a historical resource by a project's lead agency (CCR Title 14(3) §15064.5(a)).

A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing in the [California Register]" (CCR Title 14(3) §15064.5(a)(3)).

2.2.1 California Register of Historical Resources

The California Register is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The California Register helps government agencies identify and evaluate California's historical resources (California Office of Historic Preservation 2001b:1), and indicates which properties are to be protected, to the extent prudent and feasible, from substantial adverse change (PRC §5024.1(a)). Any resource listed in, or eligible for listing in, the California Register is to be taken into consideration during the CEQA process (California Office of Historic Preservation 2001a:7).

The California Register was modeled after the National Register, and its significance and integrity criteria are parallel with those of the National Register. A resource eligible for the National Register is eligible for the California Register. The National Register criteria, however, have been modified for state use by the California Office of Historic Preservation to include a range of historical resources which better reflect the history of California (California Office of Historic Preservation 2001c:69-70; 2006:1). There are three instances in which a resource not eligible for the National Register may be eligible for the California Register: moved resources; resources achieving significance in the past 50 years; and reconstructed resources (California Office of Historic Preservation 2006):

- *Moved buildings, structures, or objects*. A moved building, structure, or object that is otherwise eligible may be listed in the California Register if it was (1) moved to prevent its demolition at its former location; and (2) if the new location is compatible with the original character and use of the historical resource.
- *Reconstructed buildings*. A building less than 50 years old may be listed in the California Register if it embodies traditional building methods and techniques that play an important role in a

community's historically rooted beliefs, customs, and practices (e.g., a Native American roundhouse).

- *Historical resources achieving significance within the past 50 years*. Resources less than 50 years old may be listed in the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance.

2.2.1.1 Significance Criteria. A cultural resource is evaluated under four California Register criteria to determine its historical significance. A resource must be significant in accordance with one or more of the following criteria:

Is associated with events that have made a significant contribution to the broad pattern of

1. California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

2.2.1.2 Age. In addition to meeting one or more of the above criteria, the California Register requires that sufficient time must have passed to allow a "scholarly perspective on the events or individuals associated with the resource." Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource (California Office of Historic Preservation 2006:3; CCR Title 14(11.5) §4852 (d)(2)). The State of California Office of Historic Preservation recommends documenting, and taking into consideration in the planning process, any cultural resource that is 45 years or older (California Office of Historic Preservation 1995:2).

2.2.1.3 Period of Significance. The period of significance for a property is "the span of time when a property was associated with important events, activities, persons, cultural groups, and land uses or attained important physical qualities or characteristics" (National Park Service 1999:21). The period of significance begins with the date of the earliest important land use or activity that is reflected by historic characteristics tangible today. The period closes with the date when events having historical importance ended (National Park Service 1999:21). The period of significance for an archeological property is "the time range (which is usually estimated) during which the property was occupied or used and for which the property is likely to yield important information" (National Park Service 2000:34). Archaeological properties may have more than one period of significance.

2.3 MIDPENINSULA REGIONAL OPEN SPACE DISTRICT

2.3.1 Cultural Resource Goals, Policies, and Implementation Measures

The purpose of the goals, policies, and procedures outlined below is to formalize and enhance the District's cultural resource management practices for the long-term stewardship of significant historical and archaeological sites.[1]

Goal CR-Identify, protect, preserve, and interpret cultural resources for the benefit of present and future generations.

Policy CR-1 Maintain an inventory of cultural resources on District preserves.

- Inventory and assess cultural resources throughout the District, including prehistoric and historic archaeological sites, structures, and cultural landscape features. The Cultural Resource Inventory should include a Geographic Information Systems database; however, access to this inventory must be restricted to District staff and qualified professionals, to the extent allowed by law to protect sites from looting and vandalism.

- Record cultural resources in the District's Cultural Resource Inventory when purchasing new property and perform research on previous uses of the property. Examples of research activities include performing a records search with the Northwest Information Center and consulting historic preservation organizations, previous residents, and descendants to gather local historical information.

Complete archaeological site records for known unrecorded sites on District land and file reports with the Northwest Information Center.

Policy CR-2 Address cultural resources in the development of preserve use and management plans.

- Consult the Cultural Resource Inventory when planning projects that may have an impact on cultural resources in the project area.

- Conduct appropriate reconnaissance measures, such as research or archaeological survey, early in the planning process for trail construction, maintenance activities, or other projects that entail ground disturbance in an area of known archaeological sensitivity. Monitor construction activities when appropriate.

- Locate facilities, such as trails, staging areas, and new structures, to avoid loss or degradation of historically or archaeologically significant resources wherever possible. If not possible to avoid, minimize impacts, for example by: capping site, recording important features and/or artifacts, relocating structures, or data recovery excavation.

[1] This section is adapted from *Resource Management Policies* prepared in December 2014 by the District and is available online at: ttps://www.openspace.org/sites/default/files/Resource_Management_Policies.pdf.

- Include stakeholder groups when developing plans for the management of historically or archaeologically significant resources. Consult with descendent communities such as Native American and other ethnic groups when developing plans for the management of historically or archaeologically significant resources related to their heritage.

- Assess the significance, integrity, and feasibility of preservation of historic structures when developing Preserve Use and Management Plans or Master Plans. If a structure is determined to be eligible for the California Register of Historic Resources, assess feasibility of preserving the resource.

Policy CR-3 Protect cultural resources from disturbance to the maximum extent feasible.

- Wherever possible and appropriate, preserve historical resources and archaeological sites in situ.

- Prohibit looting, vandalism, and unauthorized removal of cultural resources and associated artifacts from District preserves.

- Implement security measures such as protective fencing and patrolling to reduce vulnerability of the resources due to vandalism and looting.

- Develop security protocols to limit availability and distribution of geographic information for cultural resources to protect sites from looting and vandalism.

- Prohibit District sale, purchase, or commercial trade of individual archaeological artifacts.

- Develop and follow guidelines for reporting, protecting and recording archaeological sites and features in the event of unexpected discovery.

- Provide District staff with basic training to identify and protect cultural resources.

- Assess existing operations within areas of known archaeological sensitivity to protect and preserve cultural resources.

- Require that all archaeological investigations or research activities that have the potential to physically significantly impact archaeological resources are carried out by qualified archaeologists, and that a technical report for each project is provided to the District following excavation.

Policy CR-4 Preserve and maintain cultural resources wherever feasible.

- Actively pursue grant assistance from local, state, federal, and other programs to supplement District funds to implement historic preservation projects for historically and archaeologically significant resources.

- Seek partnerships with private or non-profit groups to aid in the restoration, management, and use of historic structures.

- Assess the condition, identify needed repairs, and prepare maintenance plans for significant high priority historic structures as funds allow.

- Assess the eligibility of cultural resources for nomination on local registers, the California Register of Historic Resources, and the National Register of Historic Places. Consider nomination to registers for which a resource is determined eligible.

- Catalog artifacts associated with sites on District lands to prevent deterioration and to document the site and location where the artifacts were recovered. Consider curating artifacts in danger of deterioration. Maintain a cataloging system to preserve artifacts' contextual information and storage locations. Where appropriate, coordinate with other agencies and organizations to assist in long-term curation of District collections.

- Develop and follow guidelines and procedures governing loans of artifacts to other agencies and organizations.

Policy CR-5 Provide public access and educational programs to interpret historical and archaeological resources.

- Provide controlled public access to historical and archaeological sites where appropriate, considering other public access resource constraints and resource protection.

- Allow appropriate uses of cultural resources by descendent communities.

- Seek input from descendent communities, such as Native American and other ethnic groups, when planning public access and educational programs that interpret cultural resources related to their heritage.

- When developing partnerships for the use and management of historic structures, plan for public access to the structures where appropriate while minimizing impact to the structures and respecting the needs of building occupants.

- Provide interpretive materials such as signage or brochures for self-guided hikes to inform visitors about the history of District lands and the San Francisco Bay Area. Develop locations to display artifacts for public benefit.

- Encourage, utilize, and support historical research by docents and volunteers.

- Provide training opportunities for docents to aid them in the development of docent-led tours of historic and archaeological sites and landscapes.

- Facilitate school field trips of historic and archaeological sites and cultivate other opportunities to work with educational groups to interpret cultural resources on District preserves.

- Support historical and archaeological research conducted by District approved, qualified cultural resource professionals on District lands.

Policy CR-6 Preserve District institutional history.

- Preserve documents and artifacts important to the history of the District.

2.4 INTEGRITY

In order to be eligible for the National Register and/or California Register, a cultural resource must be significant under one or more criteria and must retain enough of its historic character and appearance to possess integrity, which is defined as the ability to convey the reasons for its significance (CCR Title 14 §4852(c)). The evaluation of integrity must be grounded in an understanding of a resource's physical features and its environment, and how these relate to its significance. "The retention of specific aspects of integrity is paramount for a property to convey its significance" (National Park Service 1991:44). Generally, a cultural resource must be 50 years old or older to qualify for the National Register and/or California Register.[2]

National Register Bulletin 15, *How to Apply the National Register Criteria for Evaluation* (National Park Service 1991:2), states that the quality of significance is present in districts, sites, buildings, structures, and objects that possess integrity. There are seven aspects of integrity to consider when evaluating a cultural resource: location, design, setting, materials, workmanship, feeling, and association; these aspects are described below.

- *Location* is the place where the historic property was constructed or the place where the historic event occurred. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons.

- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.

- *Setting* is the physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. Physical features that constitute the setting of a historic property can be either natural or manmade, including topographic features, vegetation, paths or fences, or relationships between buildings and other features or open space.

- *Materials* are the 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.

[2] Generally, for a cultural resource to be considered for listing in the California Register—and a historical resource for purposes of CEQA—it must be at least 50 years old or enough time must have passed for there to be a scholarly perspective on the resource and the reasons for its potential significance.

- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of the artisan's labor and skill in constructing or altering a building, structure, object, or site.

- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character.

- *Association* is the direct link between an important historic event or person and a historic property.

"To retain historic integrity a property will always possess several, and usually most, of the aspects" (National Park Service 1991:44).

2.5 ELIGIBILITY

National Register Bulletin 15, *How to Apply the National Register Criteria for Evaluation* (National Park Service 1991:3), states that in order for a property to qualify for listing in the National Register, it must meet at least one of the National Register criteria for evaluation by:

1. being associated with an important historic context *and*

2. retaining historic integrity of those features necessary to convey its significance.

Resources that meet the age guidelines, are significant, and possess integrity will generally be considered eligible for listing in the National Register and/or California Register.

3.0 METHODS

LSA conducted records search, literature and map review, archival research, and field survey to prepare this HRE. Each task is described below.

3.1 RECORDS SEARCH

LSA conducted a records search (File No. 17-1329) of the project site and adjacent properties within a one-mile radius on November 6, 2017, at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, Rohnert Park. The NWIC, an affiliate of the State of California Office of Historic Preservation, is the official state repository of cultural resource records and reports for San Mateo County.

As part of the records search, LSA also reviewed the following local and state inventories for built environment cultural resources in and adjacent to the project site:

- *Cultural Resources Existing Conditions Report for the Midpeninsula Regional Open Space District Vision Plan* (Midpeninsula Regional Open Space District 2013);
- *California Inventory of Historic Resources* (California Department of Parks and Recreation 1976);
- *Five Views: An Ethnic Historic Site Survey for California* (California Office of Historic Preservation 1988);
- *California Points of Historical Interest* (California Office of Historic Preservation 1992);
- *California Historical Landmarks* (California Office of Historic Preservation 1996);
- *San Francisco Architecture: The Illustrated Guide to Over 1,000 of the Best Buildings, Parks, and Public Artworks in the Bay Area* (Woodbridge, Sally B., John M. Woodbridge, and Chuck Byrne 1992);
- *San Francisco Architecture: An Illustrated Guide to the Outstanding Buildings, Public Artworks, and Parks in the Bay Area of California* (Woodbridge, Sally B., John M. Woodbridge and Chuck Byrne 2005);
- *Directory of Properties in the Historic Property Data File for San Mateo County*. (California Office of Historic Preservation April 5, 2012). The directory includes the listings of the National Register, National Historic Landmarks, the California Register, California Historical Landmarks, and California Points of Historical Interest;
- *Historic Sites Master List for San Mateo County* (San Mateo County 1981); and
- *San Mateo County General Plan - Inventory of County Historic Resources* (San Mateo County Department of Environmental Services 1986).

3.2 LITERATURE AND MAP REVIEW

LSA reviewed the following publications, maps, and websites for historical information about the project site and its vicinity:

- *Historic Civil Engineering Landmarks of San Francisco and Northern California* (American Society of Civil Engineers, San Francisco Section 1977);
- *California Place Names* (Gudde 1998);
- *Historic Spots in California* (Hoover et al. 1990);
- *California 1850: A Snapshot in Time* (Marschner 2000);
- *General Land Office* (GLO) *Plat for Township No. 6 South, Range No. 4 West* (GLO 1866);
- *Santa Cruz, California*, 60-minute topographic quadrangle (U.S. Geological Survey 1902);
- *Half Moon Bay, California*, 15-minute topographic quadrangle (U.S. Geological Survey 1940 and 1961);
- *Woodside, Calif*., 7.5-minute topographic quadrangle (U.S. Geological Survey 1953, 1961, 1968, 1973, 1991, and 1997);
- *Sanborn Fire Insurance Company maps of Redwood City* (Sanborn Fire Insurance Company, 1884, 1888, 1891, 1895, 1897, 1907, 1919, and 1950);
- Historical aerial photographs of Dyer Barn (Nationwide Environmental Title Research, 1948, 1953, 1956, 1960, 1968, 1980, 1991, 2002, 2005, 2009, 2010, and 2012);
- *An Architectural Guidebook to San Francisco and the Bay Area* (Cerny 2007);
- Online Archive of California at http://www.oac.cdlib.org; and
- Calisphere at http://www.calisphere.universityofcalifornia.edu.

3.3 ARCHIVAL RESEARCH

LSA Architectural Historian/Cultural Resource Analyst Amber Long conducted property-specific background research at the San Mateo County Assessor-County Clerk-Recorder's Office and the San Mateo County Historical Association, both in Redwood City.

3.4 FIELD SURVEY

LSA Architectural Historian Michael Hibma conducted a pedestrian field survey of the project site on November 1, 2017, to identify alterations to the Dyer Barn and characterize its setting. The exterior, interior, and setting of the Dyer Barn were photographed.

4.0 RESEARCH AND FIELD SURVEY RESULTS

4.1 RECORDS SEARCH

Two cultural resources have been conducted within a one-mile radius of the Dyer Barn. These resources include:

- The *Archaeological Reconnaissance of the "Weeks Driveway" in the La Honda Creek Open Space Preserve, Skyline Boulevard, San Mateo County, California*, prepared by MRC Consulting archaeologist Matthew R. Clark in 1992, evaluated a 670-foot-long segment of an existing driveway or logging road/skid path on the "Lands of Weeks" (APNs 72-333-020; -030). The report also concluded that no evidence of precontact or historic-period archaeological deposits was found within the survey area (Clark 1992).

- The *Archaeological Survey Report for the Djerassi Timber Harvesting Plan*, prepared by Gary Paul in 2003, identified a former sawmill boiler discarded in Harrington Creek approximately 0.7 miles due west of the Dyer Barn. This boiler is of riveted construction and measures 3 feet in diameter and 20 feet in length. The resource was assigned a Primary number of P-41-002153 (Paul 2003).

One cultural resource study was conducted within a one-mile radius of the Dyer Barn.

- The *Cultural Resource Evaluation of a Piece of Land Located at 350 Allen Road, County of San Mateo*, prepared by consulting archaeologist Robert Cartier, Ph.D., in 1996, presented the results of located study of the property at 350 Allen Road (APN 075-340-420), approximately 0.7 miles northwest of the Dyer Barn. The study did not identify any evidence of precontact or historic-period archaeological deposits (Cartier 1996).

The results of a review of the following local and state inventories are described below.

- A review of the Inventory of San Mateo County Historic Resources did not identify any historic resources within or adjacent to the project site (San Mateo Department of Environmental Services 1981, 1986).

- A review of the California Registry of Big Trees did not identify any historic or notable trees within or adjacent to the project site (Urban Forest Ecosystems Institute 2016).

4.2 LITERATURE AND MAP REVIEW

The literature and map review indicated that the project site remained relatively rural with no improved road to the Dyer Barn until the early 1950s, and that built environment resources (since demolished) within or adjacent to the Dyer Barn, since demolished, were in place by 1902. The changing nature of the built environment in the project site is described below.

A review of Sanborn Fire Insurance Company maps of the community of indicates that the project site was too far outside the limits of Redwood City to warrant insurance assessment and depiction

on maps (Sanborn Fire Insurance Company 1884, 1888, 1891, 1895, 1897, 1907, 1919, and 1950). Sanborn maps of nearby communities, such as Woodside, San Gregorio, or La Honda, were not available.

Historical aerial photographs of the Dyer Barn from 1948 to the present depict changes in and around the project site through time (Nationwide Environmental Title Research 1948, 1953, 1956, 1960, 1968, 1980, 1991, 2002, 2005, 2009, 2010, and 2012). Table A, below, presents these changes.

Table A: Archival Map and Aerial Photograph Review

Source	Project Site Features
General Land Office	
1866 – *Plat of Township No. 6 South/Range No. 4 West*	The project site (including Dyer Barn) is not depicted. The central portion of Section 27 is shown as unsurveyed. Two fences cross into Section 27 at the southeast corner of the southeast corner of section 27. Other notable features depicted in Section 27 include: • "Rail Road in Creek Bed" is depicted in the northeastern corner of the northeastern corner of Section 27. Examination of subsequent topographic maps indicates that the creek referred to is La Honda Creek. • A "small house" is depicted straddling the border of sections 27 and 34, southwest of the project site. • A "Fence and Road" are shown meandering along the western border of Section 27. • One northeast/southwest-oriented gulch is depicted in the southeastern corner of the northwestern corner of Section 27. Another gulch is shown in the southeastern corner of the northeastern corner of Section 27.
U.S. Geographical Survey Topographic Quadrangles	
1902 *Santa Cruz, California,* 60-minute	The project site is located in an area characterized by steep ravines. One unpaved road is shown leading to the project site from the north (not Allen Road). One building footprint is shown; however, it is located approximately 250 feet southeast of the Dyer Barn and is likely the location of a former homestead. La Honda Creek and Harrington Creek are depicted east and west of the project site, respectively.
1940 *Half Moon Bay, California.* 15-minute	The single building depicted in 1902 remains in place. A benchmark is depicted south of the project site and is named "SKY." Two unpaved footpaths are shown leading away from the project site to areas to the northwest and southwest. "Bowman Ranch" is depicted near an unnamed stream near the bottom of a deep ravine, southwest of the project site.
1953 *Woodside, Calif.* 7.5-minute	This map depicts the barn among three other building footprints depicted within 200 feet of the Dyer Barn. These footprints are shown as unfilled squares, indicating they are secondary, non-dwelling buildings. Two buildings are east of the Dyer Barn and one is to the south. One of the unfilled square building

Source	Project Site Features
	footprints, east of the Dyer Barn corresponds to the two-story, approximately 2,000 square-foot garage built circa 1950 approximately 120 feet to the east of the Dyer Barn. The other square is likely a separate house or dwelling that was demolished circa 2012. A rectangular filled square that corresponds to the contemporary single-story, approximately 3,100 square-foot, single-family residence built circa 1948 approximately 280 feet northeast of the Dyer Barn. Allen Road is depicted as a light duty road that connects Bear Gulch Road to Skyline Boulevard/SR 35. Allen Lookout, a fire lookout facility, is depicted approximately 1.1 miles northwest of the Dyer Barn. The modern community of Sky Londa is depicted approximately 1 mile east of the Dyer Barn. No other buildings, structures, or objects are depicted.
1961 *Half Moon Bay, California.* 15-minute	This map depicts three dark-colored square building footprints in the vicinity of the Dyer Barn. No secondary building footprints are depicted. Two of these shapes correspond to the two contemporary buildings as shown on the 1953 *Woodside, Calif.* 7.5-minute topographic quadrangle. A third filled shape is depicted south/south-east of the Dyer Barn. The benchmark and an associated name of "Sky" shown on the 1940 *Half Moon Bay, California* 15-minute topographic quadrangle are depicted. The segment of Allen Road that connects the parcel that contains the Dyer Barn to Bear Gulch Road is shown, but the segment connecting to Skyline Boulevard/SR 35 is depicted as a footpath or trail. Allen Lookout is depicted. No other discernable changes to the project site from 1940 or 1953 are depicted.
1961 *Woodside, Calif.* 7.5-minute	This map depicts the same built environment as was shown on the 1953 *Woodside* 7.5-minute topographic quadrangle. Notable changes include the addition of an unfilled square building footprint west of two filled shapes shown east of the Dyer Barn, as was shown in 1953. Other notable changes include depiction of the benchmark and an associated name of "Sky." Allen Road east of the Dyer Barn area is depicted as a "Jeep Trail."
1968 *Woodside, Calif.* 7.5-minute	This map depicts the same built environment as was shown on the 1961 *Woodside, Calif.* 7.5-minute topographic quadrangle. Notable changes include a power transmission line to the west.
1973 *Woodside, Calif.* 7.5-minute	No discernable changes to the project site from 1968 were identified.
1991 *Woodside, Calif.* 7.5-minute	This map depicts the same built environment as was shown on the 1973 *Woodside, Calif.* 7.5-minute topographic quadrangle.
1997 *Woodside, Calif.* 7.5-minute	No discernable changes to the project site from 1991 were identified.
Historical Aerial Photographs	
1948 Aerial	This black-and-white aerial photograph depicts three square buildings or

Source	Project Site Features
	structures, and two corrals or animal pens are shown approximately 100 feet southeast of the Dyer Barn. The contemporary single-story, approximately 3,100 square-foot single-family residence built circa 1948 is shown approximately 280 feet northeast of the Dyer Barn. The area around the Dyer Barn is mostly clear of vegetation, with extensive tree cover located south of the barn and towards top of the steep ravine to the west. The segment of Allen Road north of the Dyer Barn and leading into the property is depicted.
1953 Aerial	This black-and-white aerial photograph depicts the two-story, approximately 2,000 square-foot two-story garage built circa 1950 approximately 120 feet east of the Dyer Barn. The two corrals or animal pens are gone and replaced with an expanded building – perhaps a residence and a detached outbuilding each set within a fenced yard or corral. A detached structure is depicted approximately 150 feet southwest of the Dyer Barn.
1956 Aerial	This black-and-white aerial photograph depicts what appear to be two images spliced together. Poor resolution makes it difficult to identify discernable changes from 1953.
1960 Aerial	This black-and-white aerial photograph depicts the same built environment shown in 1953.
1968 Aerial	Although this black-and-white aerial photograph is somewhat washed out due to overexposure, this black and white aerial photograph depicts the same built environment shown in 1960.
1980 Aerial	This black-and-white aerial photograph depicts mostly the same built environment as was shown in 1968. A notable difference includes the removal of an outbuilding southeast of the Dyer Barn; it has been replaced with a three-pen corral.
1991 Aerial	This black-and-white aerial photograph depicts the same built environment shown in 1980.
2002 Aerial	Although this black-and-white aerial photograph is somewhat washed out due to overexposure, this color aerial photograph depicts the same built environment shown in 1991.
2005 Aerial	This color aerial photograph depicts the same built environment shown in 2002.
2009 Aerial	This color aerial photograph depicts the same built environment shown in 2005.
2010 Aerial	This color aerial photograph depicts the same built environment shown in 2009.
2012 Aerial	This color aerial photograph depicts the same built environment shown in 2010.

Sources: General Land Office (1866); USGS (1902, 1940, 1953, 1961a, 1961b, 1968, 1973, 1991, 1995); Nationwide Environmental Title Research, LLC, (1948, 1953, 1956, 1960, 1968, 1980, 1991, 2002, 2005, 2009, 2012).

Architectural guidebooks of the San Francisco Bay Area and the South Bay do not include the Dyer Barn (Woodbridge, Woodbridge, and Byrne 1992, 2005). No other built environment resources in or adjacent to the project site are listed or depicted in the publications, maps, and websites reviewed by LSA. Please see the References Consulted in Section 6 for a complete list of materials and sources reviewed.

4.3 ARCHIVAL RESEARCH

Based on archival information at the San Mateo County Assessor-County Clerk-Recorder's Office and the San Mateo County Historical Association, the lands that contain Dyer Barn were originally owned by Stephen Burr Gilbert, a native of New York who came to California in 1850 during the Gold Rush. Stephen Gilbert operated a lumber mill near La Honda Creek and likely milled the logs that currently form the superstructure of the Dyer Barn. Stephen Gilbert died on February 4, 1892; between the year of his death and 1965, missing information at the San Mateo County Assessor-County Clerk-Recorder's Office resulted in an incomplete chain of title for lands containing the Dyer Barn.

The 615-acre Dyer Ranch comprised two parcels of 495 acres and 120 acres, respectively, located north of La Honda and accessed via La Honda Road. According to local newspaper accounts, by 1950 the ranch was owned by Calvin Y. and Dora F. Dyer, who lived in an apartment at 501 Forest Avenue in downtown Palo Alto (Ancestry.com; *The Times* 1950:4, 1962:6, 1965:18; *Palo Alto Times* 1975:2). A 250-acre portion of Dyer Ranch, which includes the Dyer Barn, was acquired by the District in 1986 as part of the eventual creation of the La Honda Creek Open Space Preserve (Midpeninsula Regional Open Space District 2017).

4.4 FIELD SURVEY

LSA Architectural Historian Michael Hibma, M.A.; and IR Preservation Architect Charles Duncan; and Al Whitecar, Structural Engineer, conducted a pedestrian field survey of the Dyer Barn on November 1, 2017. The field survey identified the character-defining features of the Dyer Barn and the exterior of the building was reviewed and photographed, as was the site setting.

The field survey identified the Dyer Barn in the project site, consisting of a tall, rectangular wood-frame, single-crib barn built circa 1860 in a rural setting. The visual signature of the Dyer Barn is common to other types of barns in San Mateo County and statewide. The barn rests on a redwood beam foundation and is covered by a medium-pitched, front-gabled roof sheathed in corrugated roofing. The walls are of 1' by 12' vertical redwood boards with 1" and 2" battens. The barn has two doors on the east façade, and side doors on the north and south façades. No hay loft door was observed. The barn's superstructure is of hand-hewn redwood beams fastened by mortise-and-tenon joinery. The interior of the barn is open with hand-hewn redwood posts and centrally located feeding cribs and low partitions enclosing animal stalls or pens. It is divided into five slightly unequal bays from east-to-west. There are two 5' wide doors at the corners of the east and west façades, and a 3' wide door in the south façade. All doors are clad in board and batten. The east façade contains two roughly 4' by 4' foot four-light windows.

The field survey indicates that the Dyer Barn was most likely constructed circa 1860, and partially rebuilt at a point sometime after 1900. The main structural post-and-beam framing elements, which

are hand-hewn redwood, are clearly original. In general, exterior cladding, roofing, and roof rafters are building elements prone to weathering and probable selective replacement over time. The Dyer Barn is currently unused.

Please see Appendix A for California Department of Parks and Recreation 523 (DPR 523) Series form records for additional detail and photographs of the Dyer Barn.

5.0 ELIGIBILITY EVALUATION

This section presents the historic and architectural context of the project site and evaluates the Dyer Barn under National Register and California Register significance criteria.

5.1 HISTORIC CONTEXT

This section presents the land use and ownership history of the project site.

5.1.1 Early Settlement

The project site area is located in rural San Mateo County, California. Prior to European settlement, the San Francisco Bay was home to numerous tribal groups. These groups included the Ohlone, who inhabited the area what would become San Mateo County. These semi-nomadic people were hunter-gatherers who depended on coastal plant and animal species for food and other resources. Spanish records indicate that by the mid-18th century, 10 to 12 indigenous tribelets with an estimated total population between 1,000 to 2,400 lived within San Mateo County (Postel 2007:72).

Intensive Hispanic exploration and settlement of the Bay Area began with the first recorded visit on November 6–11, 1769, when a Spanish expedition led by Lieutenant Gaspar de Portolá and having accidently discovered San Francisco Bay from atop Sweeny Ridge, camped beneath a large redwood they named El Palo Alto, or "The Tall Stick." In 1777, the Franciscan Order founded Mission Santa Clara approximately 18 miles east of the project site. The Mission claimed the surrounding area and forced the Ohlone out of their communities and into the new mission-controlled colony, which quickly resulted in the decimation of the native population. The priests located at missions along the peninsula capitalized on the expansive pastureland to raise cattle and horses for the Spanish government. By 1810, the missions grazed more than 10,000 cattle on lands in modern San Mateo County (Postel 2007:78).

5.1.2 San Mateo County

Following independence from Spain in 1821, the Mexican government began to gradually secularize mission-owned property in California. Mexican governors granted large tracts of mission lands to political allies, as well as to veterans in recognition of their military service. The nearest land grant to the Dyer Barn was created on November 7, 1839, when Mexican Governor Juan Alvarado issued a land grant to Antonio José Buelna as a reward for his political support in forcing the former governor Nicolás Gutiérrez to resign (Bancroft 1886:454-455, 672-673). Buelna received two ranchos in 1839: *San Gregorio*, named after Pope Saint Gregory I, a 17,783-acre land grant that includes the present-day San Gregorio and La Honda, as well as Pomponio and San Gregorio state beaches; and *San Francisquito* ("Little Saint Francis"), a 1,471-acre land grant that includes present-day Menlo Park and the northern portion of Stanford University (Marschner 2000:121, 144). Buelna graded a road, known today as Old La Honda Road, to connect his two ranchos, and raised cattle for the tallow and hide trade.

Following Buelna's death in 1846, his will divided *Rancho San Gregorio* five ways, with a fifth each to his wife, María Concepción Valencia, his son Juan Bautista Buelna, and three others. María later

married Francisco Rodriguez, a widower and grantee of *Rancho Arroyo del Rodeo* in Santa Cruz County. In 1849, María sold a one-square league (7,863 acres) of the eastern portion of *Rancho San Gregorio* to Salvador Castro.

After California became a territory of the United States following the Mexican-American War in 1848, the Treaty of Guadalupe Hidalgo stipulated that land grants would be honored, if sufficiently proven. Separate claims for *Rancho San Gregorio* were presented by María and Salvador Castro for their respective portions; following the end of the lengthy land claim review process, Castro's portion of the *Rancho San Gregorio* grant was recorded as 4,439 acres in 1860 (General Land Office 1860, 1865).

The newly independent Mexican government disbanded the mission system in 1834 and liquidated the mission holdings into huge land grant ranchos. Due to the remoteness of Alta California, the native English-speaking Hispanic people, known as *Californios*, soon found themselves ignored by Mexico City. As more Anglo-Americans from eastern states came to California, sympathies to join the United States grew. The Mexican-American War, the Treaty of Guadalupe Hidalgo, and the discovery of gold on the American River in January of 1848 set in motion the *Californios'* loss of California (Laffey 1992:5).

The discovery of gold in Coloma in 1849 resulted in exponential population growth in California and caused many ranchos to be subdivided and sold off for development. The abundance of redwood trees represented a valuable resource that was regulated by the government during the Spanish colonial period, which limited logging and levying a 10 percent tax on timber export revenue. During the Mexican colonial period, these restrictions eased, and many newly arrived American and European settlers participated in the redwood logging industry. In response to peninsula residents seeking to separate from the political corruption and lack of official attention from officials in San Francisco, the Legislature passed an act in 1856 to create the county of San Mateo – named after a creek in the city of San Mateo – by taking the southern 90 percent of San Francisco County. Subsequent annexations of land in northern Santa Cruz County in 1868 (which included the communities of San Gregorio and Pescadero), as well as refinements with the San Francisco County border in 1901, enlarged San Mateo County to its present size (Coy 1923:236, 238-241; Postel 2007:19-21; Hynding 1982:141-142).

Although San Mateo County neighbors densely populated San Francisco County, it remained sparsely settled until the early-20th century. Following the construction of the San Francisco-San Jose Railroad in the 1860s, developers purchased large tracts of land near the rail corridor, which spurred settlement and private development throughout San Mateo County (Hynding 1982:63). This would change rapidly following the April 1906 Earthquake and Fire, when, within a week of the disaster, 60,000 survivors fled San Francisco for other peninsula communities via the San Francisco-San Jose Railroad. In the years following the reconstruction and recovery, 10,000 refugees chose to remain in San Mateo County, doubling its population (Hynding 1982:78).

During the Great Depression, San Mateo County's industries provided a diverse economic base to lessen economic hardship; by 1934, only three percent of residents received aid (Works Progress Administration 1939; Hynding 1982:87). At the onset of World War II, defense workers moved to

San Mateo County, which created another population boom in the county, and defense housing quickly expanded many communities' suburban footprints (Hynding 1982:138).

Following World War II, many defense industry workers, returning veterans, and migrants from the eastern United States wanted to remain and enjoy the state's warm climate and plentiful jobs. By 1970, the state's population doubled to nearly 20 million, which spurred a 20-year-long construction boom. The majority of the new residents were mostly young people forming families (Self 2003:257), which led to a pace of demographic change that transformed California. Then-Governor Earl Warren characterized the influx of residents as adding "a whole new city of ten thousand people every Monday morning" (Weaver 1967:147). In San Mateo County, the growth of the aircraft industry and passenger air service at San Francisco International Airport spurred growth of maintenance yards, shops, industrial parks, hotels, and restaurants. The popularity of the automobile and suburban development also fostered a boom in countywide transportation-related infrastructure (Hynding 1982:299-305); between 1946 and 1986, the Bayshore Freeway (U.S. 101), the J. Arthur Younger Freeway (State Route 92), the Portola Freeway (State Route 380), and State Route 280 were built and/or expanded. The San Mateo Bridge was built in 1967, and the Dumbarton Bridge opened in 1971 to carry State Route 84 over San Francisco Bay; the bridge was later enlarged in 1984 (Hynding 1982:256-261; Postel 2007:135-137).

San Mateo County's association with technological innovation in what was to become known as Silicon Valley began in 1948, when three scientists at New Jersey-based Bell Laboratories developed the transistor, the first semiconductor. One of the Bell scientists, William Shockley, relocated to Palo Alto in 1955 to be near his ailing mother in Menlo Park. He opened Shockley Transistors and soon assembled a talented staff via students from the University of California, Berkeley and Stanford University. However, many found his abrasive managerial style discouraging and soon left Shockley Transistors, taking their knowledge with them. Many remained in the San Francisco Bay Area and formed their own company, Fairchild Semiconductors in 1957, using venture capital from New York bankers (Postel 2007:136; Storper 2015:81-83). This proved a precursor of a pattern of job hopping and venture capital-based firms that shaped Silicon Valley during the following 60 years.

5.1.3 Dyer Barn

Background research indicates that the area containing the project site was used as cattle rangelands and settled as a farmstead in the 1860s. The general area remained sparsely unsettled until the mid-20th century, mostly due to a lack of serviceable roads. Few roads connected the Santa Clara Valley and the San Mateo Coast, and many local routes were unimproved roads (USGS 1902, 1940). In 1878, a lumber mill was built in Bear Gulch by William P. Morrison. In 1865, the lumber mill was relocated by Hanson, Ackerson & Company to a site on a ridgetop near La Honda Creek, just above Weeks Ranch, where it operated until 1871 or 1872. In 1875, a second lumber mill in the Bear Gulch area was established by H.S. Huntington, who operated the mill for five years (Moore & DePue 1878:17).

The first identified owner of the land that contains the Dyer Barn was Stephen Burr Gilbert. Born in Yates County, New York, in 1825, Gilbert emigrated to Missouri in 1846 and a year later moved to Illinois. In 1850, Gilbert joined the gold rush and came to Eldorado County, California, before moving to San José in 1852; by 1859 he had settled in San Mateo County, where he was "interested in

agricultural pursuits." In 1859, Gilbert married Ann Walkens, and they had three sons and four daughters (Barrows, Ingersoll 1893:348). The same year, Stephen Gilbert, "F.C. Gilbert", and Milton Irish built a "shingle mill, propelled by water, on the Arroyo Honda- north branch of San Gregorio Creek" (Moore & DePue 1878:17).

While listed as a "farmer" in the Woodside area of San Mateo County, Stephen Gilbert was active in local government and politics, serving as County Surveyor for two terms, a Trustee of the Redwood City School District, and a San Mateo County Supervisor in 1867 (Barrows, Ingersoll 1893:348; U.S. Census 1870, 1880; Moore and DePue 1878:34-35). By 1878, Gilbert's holdings covered 600 acres and included part of the northern portion of *Rancho San Gregorio* (Moore and DePue 1878:38). Gilbert died on February 4, 1892; missing information at the San Mateo County Assessor-County Clerk-Recorder's Office prevented the inspection of a complete chain of title for lands containing the Dyer Barn between the year of Gilbert's death and 1965.

The 615-acre Dyer Ranch comprised two parcels of 495 acres and 120 acres, respectively, located north of La Honda and accessed via La Honda Road. According to local newspaper accounts, by 1950 the ranch was owned by Calvin Y. and Dora F. Dyer, who lived in an apartment at 501 Forest Avenue in downtown Palo Alto (Ancestry.com; *The Times* 1950:4, 1962:6, 1965:18; *Palo Alto Times* 1975:2) and leased the ranch to tenants. In 1962, a permit was issued to harvest 10,000,000 board feet of lumber over three years from Dyer Ranch. In 1975, the Dyer Ranch was leased to Monte Stern, "heir to the Sears retail stores fortune," who wanted to stage live open air concerts on the ranch. The proposal was met with stiff resistance from neighbors, "including rock star Neil Young," and efforts to create a West Coast version of Woodstock ultimately failed (*Palo Alto Times* 1975:2).

A 250-acre portion of Dyer Ranch, which includes the Dyer Barn, was acquired by the District in 1986 as part of the eventual creation of the La Honda Creek Open Space Preserve (Midpeninsula Regional Open Space District 2017). According to a water rights adjudication for San Gregorio Creek in 1989, the District was owner of Dyer Ranch at that time, and the previous owner was Calvin Y. Dyer, suggesting that Calvin and Dora Dyer retained continuous ownership up to the point of District acquisition (State Water Resources Control Board 1989:4).

5.2 ARCHITECTURAL CONTEXT

Architecture in the project site follows agriculture-related development trends elsewhere in late-19th century California. Based on the physical characteristics of the Dyer Barn, the best applicable architectural style is Vernacular. The distinctive characteristics of this type and method of construction are described below.

5.2.1 Vernacular

A useful approach to understanding what Vernacular style is, is by defining what it is *not*. That is, Vernacular architecture is not overly formal or monumental in nature, but rather is represented by relatively unadorned construction that is not designed by a professional architect. Vernacular architecture is the commonplace or ordinary building stock that is built for meeting a practical purpose with a minimal amount of flourish or otherwise traditional or ethnic influences (Upton and Vlach 1986:xv-xxi, 426-432).

The historical roots of the Vernacular style in the United States dates from colonial settlement during the 16th and 17th centuries. European immigrants, either of modest independent means, or financed with corporate backing, brought with them a wood-based building tradition. From this combination of the wood-based building tradition and open, unsettled, and heavily forested land developed a Vernacular style, "characterized by short-lived or temporary dwellings focused on the family and distinct from the place of work" (Jackson 1984:85-87). Typically associated with older hand-built, rural buildings in agricultural settings, Vernacular architecture can also include modern pre-fabricated, general purpose steel buildings used as shop space, warehouses, and many other functions (Gottfried and Jennings 2009:9-16).

Character-defining features of the Vernacular style include (1) a simple roofline, with a medium to low-pitch; (2) small building footprint, generally rectangular; (3) simple construction techniques and mass-produced materials; and (4) designed and constructed by a carpenter.

In the rural areas of San Mateo County and counties statewide, barns and other outbuildings associated with agricultural uses, such as livestock pens, poultry sheds, shop buildings, and storage sheds, are typically Vernacular in design. These were designed with the intent of serving a utilitarian function, a trend well represented in the existing agricultural building stock of San Mateo County. These buildings vary in size according to their purpose, are built of wood, and are designed to shelter machinery, equipment, animals, animal feed, and supplies from inclement weather. Over time, the utilitarian design accommodated land use or commodity changes, such as conversion from cattle ranching to sheep or hogs; or from row crops to orchard crops or vineyards (California Department of Transportation 2007:155-169; National Park Service 1989).

5.2.2 Barns

Barns “evoke a sense of tradition and security, of closeness to the land and community with the people who built them” (Auer 1989:1). After the residence, barns typically are the most important, if not the largest, building on typical farm or ranch and its construction was among the “greatest single financial outlays a farmer would make during his or her lifetime” (California Department of Transportation 2007:107; Vlach 2003:1-28). Reflective of their importance in farm or ranch operations, barns have to serve many purposes. Accordingly, barns are designed with a general Vernacular utilitarian aesthetic, as described above, to allow for maximum longevity and versatility via modification to accommodate several uses such as storing crops, sheltering livestock, storing equipment, and materials, or housing for laborers (California Department of Transportation 2007:107).

Gable roof single-crib barns, similar to the Dyer Barn, are the simplest and most common barn type built in California and nationwide. In the context of barns, the term “crib” refers to an area enclosed by a “pen or crib of logs, held together at the corners by notches” (Noble and Cleek 1995:62). California’s earliest barns were generally similar to the Dyer Barn – rectangular, supported by a post-and-beam system, and possessing tall sidewalls covered by a moderately-pitched gable roof (Noble and Cleek 1995:62; California Department of Transportation 2007:107; Vlach 2003:353-356). Beginning circa 1880, barns were built using either machine-cut or wire nails (California Department of Transportation 2007:107).

Over time, changes in land use patterns, increased immigration of people with an agricultural background, and advanced modes of production often resulted in modifications to the simple barn. In California, examples of advanced, more specialized uses include, but are not limited to, round barns, dairy barns, hay barns, hop kilns, and tower barns (California Department of Transportation 2007:155-169; Vlach 2003:362-369).

5.3 ELIGIBILITY EVALUATION

This section applies the National Register and California Register significance criteria to the Dyer Barn. As stated previously, the two other detached buildings in the vicinity, the contemporary residence and garage, are not evaluated for National Register or California Register eligibility in this HRE.

The period of significance for the Dyer Barn is circa 1860-1967, which encompasses the estimated date of construction and the continuous association of the Dyer Barn with agricultural land use in rural San Mateo County and mid-19th century vernacular architecture up to 50 years before the present.[3]

Because the California Register was deliberately modeled on the National Register significance criteria, the significance criteria of the two registers are similar. The evaluation below quotes the applicable National Register and California Register subject criteria (***bold text***) and is followed by a combined significance and integrity assessment.

5.3.1 Application of National Register/California Register Criteria

*National Register Criterion A: Is it associated with **events** that have made a significant contribution to the broad patterns of our history?*

*California Register Criterion 1: Is it associated with **events** that have made a significant contribution to the broad patterns of California's history and cultural heritage?*

Research indicates that the Dyer Barn is associated with the early agricultural land use and development of San Mateo County in the mid-19th through the mid-20th century, events that made a significant contribution to the broad patterns of the history of San Mateo County. Dyer Barn was originally constructed circa 1860 and portions of which were later rebuilt by 1900, as evidenced by the use of later building materials. It was also adaptively reused at various points in its history to accommodate new owners and/or new land use(s), but always related to agriculture or natural resource extraction. This building is a visible and prominent remnant at La Honda Open Creek Open Space Preserve of a prior land use once common in this part of San Mateo County and crucial to early economic development and settlement.

For these reasons, LSA concludes that the Dyer Barn is significant under Criterion A/1.

[3] According to National Register Bulletin 15: *How to Apply the National Register Criteria for Evaluation*, "[f]ifty years is the general estimate of the time needed to develop historical perspective and to evaluate significance. This consideration guards against the listing of properties of passing contemporary interest and ensures that the National Register is a list of truly *historic* places" (National Park Service 1991:41).

*National Register Criterion B: Is it associated with the lives of **significant persons** in our past?*

*California Register Criterion 2: Is it associated with the lives of **persons important** in our past?*

Research indicates that the property is associated with Stephen Burr Gilbert and Calvin Y. and Dora F. Dyer. Background research indicates that Gilbert was likely responsible for the construction of the Dyer Barn and was an official of relative prominence in the early agricultural and political development of San Mateo County; as he served as County Surveyor and a county supervisor. However he did not conduct his public duties on the ranch, nor did background research show that his role as a public official was of singular importance in the development of La Honda and San Mateo County, nor was the Dyer Barn an important part in the performance of his duties.

Calvin and Dora Dyer, the namesakes of the Dyer Barn, owned the 615-acre Dyer Ranch from the 1950s through the mid-1980s before selling a 250-acre portion containing the barn to the District. However, prior to that, the Dyers rented out their ranch to tenants while living in an apartment in downtown Palo Alto. The Dyers did not construct the Dyer Barn, use the property as a primary residence, or directly oversee ranching or timber harvesting operations.

For these reasons, LSA concludes that the Dyer Barn is not significant under Criterion B/2.

*National Register Criterion C: Does it embody the distinctive characteristics of a **type, period, or method of construction**, or represent the **work of a master**, or possess **high artistic values**?*

*California Register Criterion 3: Does it embody the distinctive characteristics of a **type, period, region, or method of construction**, or represents the work of an **important creative individual**, or possesses **high artistic values**?*

Dyer Barn is a representative example of a Vernacular utilitarian building type associated with mid-19th century agricultural development in San Mateo County and California. Although there is no evidence that it is a work of a master or important creative individual, the building's surviving circa 1860 superstructure is of hand-hewn redwood beams fastened by mortise-and-tenon joinery, which embodies the distinctive architectural characteristics of utilitarian agrarian architecture. The Dyer Barn shows evidence of modification, which is common to these building types that were subsequently adaptively reused by subsequent owners and/or to address deferred maintenance or other damage.

For these reasons, LSA concludes that the Dyer Barn is significant under Criterion C/3.

*National Register Criterion D: Has it yielded, or may it be likely to yield, **information** important in history or prehistory?*

*California Register Criterion 4: Has it yielded, or may it be likely to yield, **information** important in prehistory or history?*

This criterion is usually used to evaluate the potential for archaeological deposits to contain information important in San Mateo County's historic-period and precontact past. Its application

to architecture and the built environment is less common in eligibility evaluations due to modern written sources and other forms of analysis. Although general information about the Vernacular style and mortise-and-tenon construction techniques can be obtained from other sources, the Dyer Barn is a notable example of a local variation on that widely represented style, and especially of that joinery technology. The use of local redwood is an example of the utilization of San Mateo County natural resources extracted and processed in a relatively isolated enclave in the Santa Cruz Mountains. As such, the Dyer Barn represents a local building tradition, labor-intensive craftsmanship, and the use of an important resource that supported economic development and traditional agricultural lifeways in a rural enclave in the 1860s. Further study of the joinery and other carpentry technology and techniques may yield information about the evolution of the style and design of barns in San Mateo County during the mid-19th century.

For these reasons, LSA concludes that the Dyer Barn is significant under Criterion D/4.

5.3.2 Integrity Assessment

Integrity is the ability of a property to convey its significance. To be listed in the National Register or California Register, a property must not only be shown to be significant under the evaluate criteria, but it must also have integrity (National Park Service 1997:44). The integrity of the Dyer Barn was evaluated by LSA.

As previously discussed, historic integrity refers to the ability of a resource to convey its significant historical associations. Integrity is a critical component of historical resources that are listed in, or eligible for listing in, the National Register and/or California Register. This subsection discusses the historic integrity of the Dyer Barn with respect to seven aspects: location, setting, design, feeling, materials, workmanship, and association.

5.3.3.1 Dyer Barn

- Dyer Barn has not been moved, and retains individual integrity of *location*.

- Dyer Barn retains individual integrity of *feeling*. The building remains an agricultural building within an undeveloped, rural area. The building has been used by various owners, but has retained its overall utilitarian function for over 150 years.

- Dyer Barn retains individual integrity of *setting*. The building remains in an undeveloped, rural area that retains historical land use patterns of cattle ranching on private property or designated open space.

- Dyer Barn retains sufficient integrity of *workmanship*, *design*, and *materials* to convey singular importance as a representative example of a primary utilitarian building. Alterations to the Dyer Barn occurred through time to accommodate different owners and as part of routine maintenance and structural replacement. Alterations included siding repairs, reroofing, and the replacement of rotted components and missing fascia. The building retains sufficient historic fabric to convey its historic appearance and design.

- Dyer Barn retains individual integrity of *association* with ranching operations on the property from the 1860s to today. The District allows grazing on its lands as a grassland management tool to "remove plant biomass and control invasive non-native weeds…maintain native plant communities, enhance biodiversity, increase and regulate nutrient cycling on the environment, improve wildlife habitat and decrease fuel loads to reduce wildfire risk" (Midpeninsula Regional open Space District 2012:48).

5.4 CONCLUSION

Based on background research and the field survey, LSA concludes that the Dyer Barn, consisting of a rectangular wood-frame barn built circa 1860 in central unincorporated San Mateo County, appears eligible for individual inclusion in the National Register and California Register under Criterion A/1 for significant associations with early agricultural land use and development of San Mateo County in the mid-19th through the mid-20th century; under Criterion C/3 as a representative example of a Vernacular utilitarian building type associated with mid-19th century agricultural built environment development in San Mateo County and California; and under Criterion D/4 for the potential to yield information as an early example of local adaptation of the Vernacular architectural style to rural San Mateo County, use of local materials, and mortise-and-tenon joinery construction.

For these reasons, the Dyer Barn qualifies as a historical resource for the purposes of CEQA as defined at PRC §21084.1, as defined in §5020.1(k), or deemed significant pursuant to criteria set forth in §5024.1(g).

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APPENDIX A

CALIFORNIA DEPARTMENT OF PARKS AND RECREATION

523 SERIES FORM RECORDS

Dyer Barn

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code: 3CS
Other Listings
Review Code _____ Reviewer _____Date

P1. Other Identifier: La Honda White Barn, La Honda Creek Open Space Preserve

P2. Location ☐ Not for Publication ☒Unrestricted

- **a. County:** San Mateo
- **b. USGS 7.5' Quads:** *Woodside, Calif.*, **Date:** 1973; **T**6S**; R**4**W,** NE¼, SE¼, Section 27, M.D.B. & M.
- **c. Address:** Kebet Ridge Road **City**: Woodside (vicinity) **Zip**: 94062
- **d. UTM:** Zone 10S 563763mE/4137011mN
- **e. Other Locational Data:** APN 075-330-220

P3a. Description: The resource, called the "Dyer Barn" consists of a tall, rectangular, wood-framed, single-crib barn built circa 1860 in a rural setting. The visual signature of Dyer Barn is common to other types of barns in San Mateo County and statewide. The barn rests on a redwood beam foundation and is covered by a medium-pitched, front-gabled roof sheathed in corrugated roofing. The walls are of 1' by 12' wide vertical redwood boards with 1" and 2" battens. The barn has two doors on the east façade and side doors on the north and south façades. No hay loft door was observed. The barn's superstructure is of hand-hewn redwood beams fastened by mortise-and-tenon joinery. The interior of the barn is open with hand-hewn redwood posts and centrally located feeding cribs and low partitions enclosing animal stalls or pens. It is divided into five slightly unequal bays from east-to-west. There are two five foot wide doors at the corners of the east and west façades. In addition there is one three foot wide door in the south façade. All doors are clad in board and batten. The east façade contains two roughly 4' by 4' four-light windows. The Dyer Barn is in poor condition due to failing foundation and neglect. It is currently unused. The field survey indicates that the Dyer Barn was most likely constructed circa 1860, and partially rebuilt at a point sometime after 1900. The surviving main structural post-and-beam framing elements, which are hand-hewn redwood, are clearly original. See continuation sheets.

P3b. Resource Attributes: (HP4) Ancillary building

P4. Resources Present: ☒ Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photograph:

P5b. Description of Photo: Dyer Barn. La Honda Creek Open Space Preserve, north and east façades. View southwest. LSA photo, 11/1/16.

P6. Date Constructed/Age and Source: ☒ **Historic**, built circa 1860 (Midpeninsula Regional Open Space District).

P7. Owner and Address:
Midpeninsula Regional Open Space District
330 Distel Circle,
Los Altos, California 94022

P8. Recorded by:
Michael Hibma, M.A., RPH
LSA
157 Park Place
Richmond, California 94801

P9. Date recorded: 12/15//17

P10. Survey Type: Intensive

P11. Report citation: Hibma, Michael, 2018. *Historical Resource Evaluation Report – Dyer Barn, La Honda Creek Open Space Preserve, unincorporated San Mateo County, California*. LSA, Point Richmond, California.

Attachments: ☒Location Map ☒Continuation Sheets ☒Building, Structure, and Object Record

DPR 523A (1/95)

B1. **Historic Name:** Dyer Barn, Dyer Ranch
B2. **Common Name:** La Honda White Barn; La Honda Creek Open Space Preserve
B3. **Original Use:** Agricultural
B4. **Present Use:** Vacant
B5. **Architectural Style:** Vernacular
B6. **Construction History:** Information from the Midpeninsula Open Space District, the San Mateo County Historical Association, and architectural characteristics indicates that the Dyer Barn was built circa 1860 by Stephan Burr Gilbert use as part of a family ranch. A November 1, 2017, pedestrian field survey of the Dyer Barn indicates it was partially rebuilt at a point sometime after 1900. The main structural post-and-beam framing elements, which are hand-hewn redwood, are clearly original. In general, exterior cladding, roofing, and roof rafters are building elements prone to weathering and probable selective replacement over time. The Dyer Barn is currently unused.

B7. **Moved?** ☒ No
B8. **Related Features:** None
B9. **a. Architect:** N/A
b. Builder: N/A
B10. **Significance: Theme:** Agricultural development/Vernacular architecture **Area:** La Honda area, San Mateo County
Period of Significance: 1860-1967 **Property Type:** Barn **Applicable Criteria:** A/1, C/3, D/4
The Dyer Barn is on a 90-acre property situated on an exposed ridge above a steep ravine covered in oak trees, redwood trees, and chaparral in a rural setting. Research indicates that the Dyer Barn is associated with the agricultural land use and development of San Mateo County from the mid-19th through the mid-20th centuries, an event that made a significant contribution to the broad patterns of the history of what would become San Mateo County. The Dyer Barn is also a representative example of a Vernacular utilitarian building type associated with mid-19th century agricultural built environment development in San Mateo County and California, and for potential information as an early example of local variation and adaptation of Vernacular architecture in rural San Mateo County, use of local materials such as redwood, and as an example of mortise-and-tenon joinery construction. (see continuation sheets).

B11. **Additional Resource Attributes:** N/A
B12. **References:**

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B13. **Remarks:** None

B14. **Evaluator:** Michael Hibma, M.A., DPH
LSA
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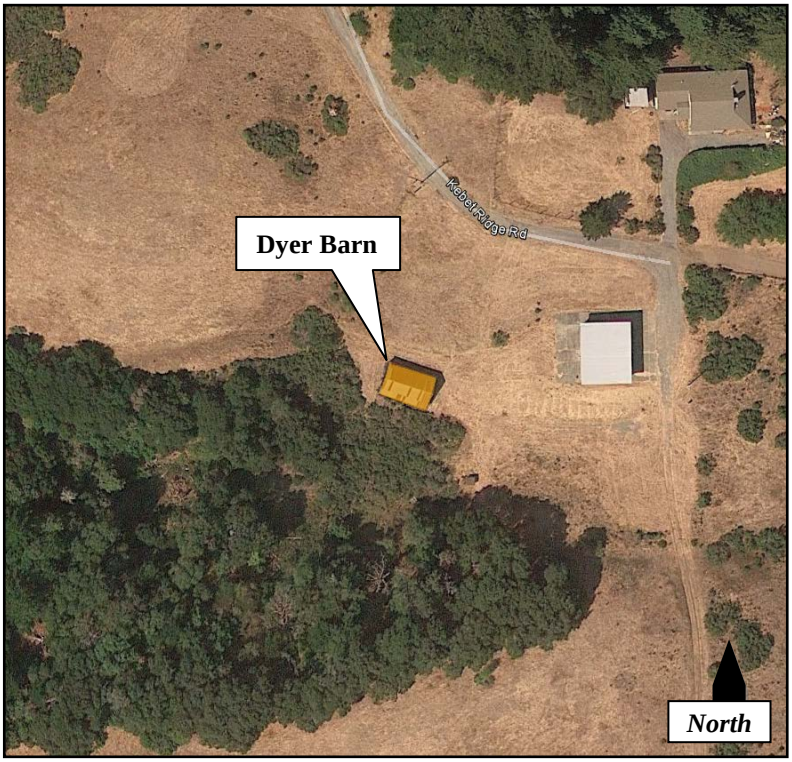

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B10. Significance (continued)

HISTORICAL CONTEXT

This section presents the land use and development of the study area and its vicinity. The context integrates the results of background research and reviews of previous research regarding the Dyer Barn conducted by LSA.

Early Settlement

The project site area is located in rural San Mateo County, California. Prior to European settlement, the San Francisco Bay was home to numerous tribal groups. These groups included the Ohlone, who inhabited the area what would become San Mateo County. These semi-nomadic people were hunter-gatherers who depended on coastal plant and animal species for food and other resources. Spanish records indicate that by the mid-18th century, 10 to 12 indigenous tribelets with an estimated total population between 1,000 to 2,400 lived within San Mateo County (Postel 2007:72).

Intensive Hispanic exploration and settlement of the Bay Area began with the first recorded visit on November 6–11, 1769, when a Spanish expedition led by Lieutenant Gaspar de Portolá and having accidently discovered San Francisco Bay from atop Sweeny Ridge, camped beneath a large redwood they named *El Palo Alto*, or "The Tall Stick." In 1777, the Franciscan Order founded Mission Santa Clara approximately 18 miles east of the project site. The Mission claimed the surrounding area and forced the Ohlone out of their communities and into the new mission-controlled colony, which quickly resulted in the decimation of the native population. The priests located at missions along the peninsula capitalized on the expansive pastureland to raise cattle and horses for the Spanish government. By 1810, the missions grazed more than 10,000 cattle on lands in modern San Mateo County (Postel 2007:78).

San Mateo County

Following independence from Spain in 1821, the Mexican government began to gradually secularize mission-owned property in California. Mexican governors granted large tracts of mission lands to political allies, as well as to veterans in recognition of their military service. The nearest land grant to the Dyer Barn was created on November 7, 1839, when Mexican Governor Juan Alvarado issued a land grant to Antonio José Buelna as a reward for his political support in forcing the former governor Nicolás Gutiérrez to resign (Bancroft 1886:454-455, 672-673). Buelna received two ranchos in 1839: *San Gregorio*, named after Pope Saint Gregory I, a 17,783-acre land grant that includes the present-day San Gregorio and La Honda, as well as Pomponio and San Gregorio state beaches; and *San Francisquito* ("Little Saint Francis"), a 1,471-acre land grant that includes present-day Menlo Park and the northern portion of Stanford University (Marschner 2000:121, 144). Buelna graded a road, known today as Old La Honda Road, to connect his two ranchos, and raised cattle for the tallow and hide trade.

Following Buelna's death in 1846, his will divided Rancho San Gregorio five ways, with a fifth each to his wife, María Concepción Valencia, his son Juan Bautista Buelna, and three others. María later married Francisco Rodriguez, a widower and grantee of Rancho Arroyo del Rodeo in Santa Cruz County. In 1849, María sold a one-square league (7,863 acres) of the eastern portion of Rancho San Gregorio to Salvador Castro.

After California became a territory of the United States following the Mexican-American War in 1848, the Treaty of Guadalupe Hidalgo stipulated that land grants would be honored, if sufficiently proven. Separate claims for Rancho San Gregorio were presented by María and Salvador Castro for their respective portions; following the end of the lengthy land claim review process, Castro's portion of the Rancho San Gregorio grant was recorded as 4,439 acres in 1860 (General Land Office 1860, 1865).

The newly independent Mexican government disbanded the mission system in 1834 and liquidated the mission holdings into huge land grant ranchos. Due to the remoteness of Alta California, the native English-speaking Hispanic people, known as Californios, soon found themselves ignored by Mexico City. As more Anglo-Americans from eastern states came to California, sympathies to join the United States grew. The Mexican-American War, the Treaty of Guadalupe Hidalgo, and the discovery of gold on the American River in January of 1848 set in motion the Californios' loss of California (Laffey 1992:5).

The discovery of gold in Coloma in 1849 resulted in exponential population growth in California and caused many ranchos to be subdivided and sold off for development. The abundance of redwood trees represented a valuable resource that was regulated by the government during the Spanish colonial period, which limited logging and levying a 10 percent tax on timber export revenue. During the Mexican colonial period, these restrictions eased, and many newly arrived American and European settlers participated in the redwood logging industry. In response to peninsula residents seeking to separate from the political corruption and lack of official attention from officials in San Francisco, the Legislature passed an act in 1856 to create the county of San Mateo – named after a creek in the city of San Mateo – by taking the southern 90 percent of San Francisco County. Subsequent annexations of land in northern Santa Cruz County in 1868 (which included the communities of San Gregorio and Pescadero), as well as refinements with the San Francisco County border in 1901, enlarged San Mateo County to its present size (Coy 1923:236, 238-241; Postel 2007:19-21; Hynding 1982:141-142).

B10. Significance (continued)

Although San Mateo County neighbors densely populated San Francisco County, it remained sparsely settled until the early-20th century. Following the construction of the San Francisco-San Jose Railroad in the 1860s, developers purchased large tracts of land near the rail corridor, which spurred settlement and private development throughout San Mateo County (Hynding 1982:63). This would change rapidly following the April 1906 Earthquake and Fire, when, within a week of the disaster, 60,000 survivors fled San Francisco for other peninsula communities via the San Francisco-San Jose Railroad. In the years following the reconstruction and recovery, 10,000 refugees chose to remain in San Mateo County, doubling its population (Hynding 1982:78).

During the Great Depression, San Mateo County's industries provided a diverse economic base to lessen economic hardship; by 1934, only three percent of residents received aid (Works Progress Administration 1939; Hynding 1982:87). At the onset of World War II, defense workers moved to San Mateo County, which created another population boom in the county, and defense housing quickly expanded many communities' suburban footprints (Hynding 1982:138).

Following World War II, many defense industry workers, returning veterans, and migrants from the eastern United States wanted to remain and enjoy the state's warm climate and plentiful jobs. By 1970, the state's population doubled to nearly 20 million, which spurred a 20-year-long construction boom. The majority of the new residents were mostly young people forming families (Self 2003:257), which led to a pace of demographic change that transformed California. Then-Governor Earl Warren characterized the influx of residents as adding "a whole new city of ten thousand people every Monday morning" (Weaver 1967:147). In San Mateo County, the growth of the aircraft industry and passenger air service at San Francisco International Airport spurred growth of maintenance yards, shops, industrial parks, hotels, and restaurants. The popularity of the automobile and suburban development also fostered a boom in countywide transportation-related infrastructure (Hynding 1982:299-305); between 1946 and 1986, the Bayshore Freeway (U.S. 101), the J. Arthur Younger Freeway (State Route 92), the Portola Freeway (State Route 380), and State Route 280 were built and/or expanded. The San Mateo Bridge was built in 1967, and the Dumbarton Bridge opened in 1971 to carry State Route 84 over San Francisco Bay; the bridge was later enlarged in 1984 (Hynding 1982:256-261; Postel 2007:135-137).

San Mateo County's association with technological innovation in what was to become known as Silicon Valley began in 1948, when three scientists at New Jersey-based Bell Laboratories developed the transistor, the first semiconductor. One of the Bell scientists, William Shockley, relocated to Palo Alto in 1955 to be near his ailing mother in Menlo Park. He opened Shockley Transistors and soon assembled a talented staff via students from the University of California, Berkeley and Stanford University. However, many found his abrasive managerial style discouraging and soon left Shockley Transistors, taking their knowledge with them. Many remained in the San Francisco Bay Area and formed their own company, Fairchild Semiconductors in 1957, using venture capital from New York bankers (Postel 2007:136; Storper 2015:81-83). This proved a precursor of a pattern of job hopping and venture capital-based firms that shaped Silicon Valley during the following 60 years.

Dyer Barn

Background research indicates that the area containing the project site was used as cattle rangelands and settled as a farmstead in the 1860s. The general area remained sparsely unsettled until the mid-20th century, mostly due to a lack of serviceable roads. Few roads connected the Santa Clara Valley and the San Mateo Coast, and many local routes were unimproved roads (USGS 1902, 1940). In 1878, a lumber mill was built in Bear Gulch by William P. Morrison. In 1865, the lumber mill was relocated by Hanson, Ackerson & Company to a site on a ridgetop near La Honda Creek, just above Weeks Ranch, where it operated until 1871 or 1872. In 1875, a second lumber mill in the Bear Gulch area was established by H.S. Huntington, who operated the mill for five years (Moore & DePue 1878:17).

The first identified owner of the land that contains the Dyer Barn was Stephen Burr Gilbert. Born in Yates County, New York, in 1825, Gilbert emigrated to Missouri in 1846 and a year later moved to Illinois. In 1850, Gilbert joined the gold rush and came to Eldorado County, California, before moving to San José in 1852; by 1859 he had settled in San Mateo County, where he was "interested in agricultural pursuits." In 1859, Gilbert married Ann Walkens, and they had three sons and four daughters (Barrows, Ingersoll 1893:348). The same year, Stephen Gilbert, "F.C. Gilbert", and Milton Irish built a "shingle mill, propelled by water, on the Arroyo Honda- north branch of San Gregorio Creek" (Moore & DePue 1878:17).

While listed as a "farmer" in the Woodside area of San Mateo County, Stephen Gilbert was active in local government and politics, serving as County Surveyor for two terms, a Trustee of the Redwood City School District, and a San Mateo County Supervisor in 1867 (Barrows, Ingersoll 1893:348; U.S. Census 1870, 1880; Moore and DePue 1878:34-35). By 1878, Gilbert's holdings covered 600 acres and included part of the northern portion of Rancho San Gregorio (Moore and DePue 1878:38). Gilbert died on February 4, 1892; missing information at the San Mateo County Assessor-County Clerk-Recorder's Office prevented the inspection of a complete chain of title for lands containing the Dyer Barn between the year of Gilbert's death and 1965.

B10. Significance (continued)

The 615-acre Dyer Ranch comprised two parcels of 495 acres and 120 acres, respectively, located north of La Honda and accessed via La Honda Road. According to local newspaper accounts, by 1950 the ranch was owned by Calvin Y. and Dora F. Dyer, who lived in an apartment at 501 Forest Avenue in downtown Palo Alto (Ancestry.com; The Times 1950:4, 1962:6, 1965:18; Palo Alto Times 1975:2) and leased the ranch to tenants. In 1962, a permit was issued to harvest 10,000,000 board feet of lumber over three years from Dyer Ranch. In 1975, the Dyer Ranch was leased to Monte Stern, "heir to the Sears retail stores fortune," who wanted to stage live open air concerts on the ranch. The proposal was met with stiff resistance from neighbors, "including rock star Neil Young," and efforts to create a West Coast version of Woodstock ultimately failed (Palo Alto Times 1975:2).

A 250-acre portion of Dyer Ranch, which includes the Dyer Barn, was acquired by the District in 1986 as part of the eventual creation of the La Honda Creek Open Space Preserve (Midpeninsula Regional Open Space District 2017). According to a water rights adjudication for San Gregorio Creek in 1989, the District was owner of Dyer Ranch at that time, and the previous owner was Calvin Y. Dyer, suggesting that Calvin and Dora Dyer retained continuous ownership up to the point of District acquisition (State Water Resources Control Board 1989:4).

Architectural Context

A useful approach to understanding what Vernacular style is, is by defining what it is not. That is, Vernacular architecture is not overly formal or monumental in nature, but rather is represented by relatively unadorned construction that is not designed by a professional architect. Vernacular architecture is the commonplace or ordinary building stock that is built for meeting a practical purpose with a minimal amount of flourish or otherwise traditional or ethnic influences (Upton and Vlach 1986:xv-xxi, 426-432).

The historical roots of the Vernacular style in the United States dates from colonial settlement during the 16th and 17th centuries. European immigrants, either of modest independent means, or financed with corporate backing, brought with them a wood-based building tradition. From this combination of the wood-based building tradition and open, unsettled, and heavily forested land developed a Vernacular style, "characterized by short-lived or temporary dwellings focused on the family and distinct from the place of work" (Jackson 1984:85-87). Typically associated with older hand-built, rural buildings in agricultural settings, Vernacular architecture can also include modern pre-fabricated, general purpose steel buildings used as shop space, warehouses, and many other functions (Gottfried and Jennings 2009:9-16).

Character-defining features of the Vernacular style include (1) a simple roofline, with a medium to low-pitch; (2) small building footprint, generally rectangular; (3) simple construction techniques and mass-produced materials; and (4) designed and constructed by a carpenter.

In the rural areas of San Mateo County and counties statewide, barns and other outbuildings associated with agricultural uses, such as livestock pens, poultry sheds, shop buildings, and storage sheds, are typically Vernacular in design. These were designed with the intent of serving a utilitarian function, a trend well represented in the existing agricultural building stock of San Mateo County. These buildings vary in size according to their purpose, are built of wood, and are designed to shelter machinery, equipment, animals, animal feed, and supplies from inclement weather. Over time, the utilitarian design accommodated land use or commodity changes, such as conversion from cattle ranching to sheep or hogs; or from row crops to orchard crops or vineyards (California Department of Transportation 2007:155-169; National Park Service 1989).

Barns. Barns "evoke a sense of tradition and security, of closeness to the land and community with the people who built them" (Auer 1989:1). After the residence, barns typically are the most important, if not the largest, building on typical farm or ranch and its construction was among the "greatest single financial outlays a farmer would make during his or her lifetime" (California Department of Transportation 2007:107; Vlach 2003:1-28). Reflective of their importance in farm or ranch operations, barns have to serve many purposes. Accordingly, barns are designed with a general Vernacular utilitarian aesthetic, as described above, to allow for maximum longevity and versatility via modification to accommodate several uses such as storing crops, sheltering livestock, storing equipment, and materials, or housing for laborers (California Department of Transportation 2007:107).

Gable roof single-crib barns, similar to the Dyer Barn, are the simplest and most common barn type built in California and nationwide. In the context of barns, the term "crib" refers to an area enclosed by a "pen or crib of logs, held together at the corners by notches" (Noble and Cleek 1995:62). California's earliest barns were generally similar to the Dyer Barn – rectangular, supported by a post-and-beam system, and possessing tall sidewalls covered by a moderately-pitched gable roof (Noble and Cleek 1995:62; California Department of Transportation 2007:107; Vlach 2003:353-356). Beginning circa 1880, barns were built using either machine-cut or wire nails (California Department of Transportation 2007:107).

Over time, changes in land use patterns, increased immigration of people with an agricultural background, and advanced modes of production often resulted in modifications to the simple barn. In California, examples of advanced, more specialized uses include, but are not limited to, round barns, dairy barns, hay barns, hop kilns, and tower barns (California Department of Transportation 2007:155-169; Vlach 2003:362-369).

B10. Significance (continued)

Eligibility Evaluation

This section applies the National Register and California Register significance criteria to the Dyer Barn.

*National Register Criterion A: Is it associated with **events** that have made a significant contribution to the broad patterns of our history?*

*California Register Criterion 1: Is it associated with **events** that have made a significant contribution to the broad patterns of California's history and cultural heritage?*

Research indicates that the Dyer Barn is associated with the early agricultural land use and development of San Mateo County in the mid-19th through the mid-20th century, events that made a significant contribution to the broad patterns of the history of San Mateo County. Dyer Barn was originally constructed circa 1860 and portions of which were later rebuilt by 1900, as evidenced by the use of later building materials. It was also adaptively reused at various points in its history to accommodate new owners and/or new land use(s), but always related to agriculture or natural resource extraction. This building is a visible and prominent remnant at La Honda Open Creek Open Space Preserve of a prior land use once common in this part of San Mateo County and crucial to early economic development and settlement. For these reasons, LSA concludes that the Dyer Barn *is significant* under Criterion A/1.

*National Register Criterion B: Is it associated with the lives of **significant persons** in our past?*

*California Register Criterion 2: Is it associated with the lives of **persons important** in our past?*

Research indicates that the property is associated with Stephen Burr Gilbert and Calvin Y. and Dora F. Dyer. Background research indicates that Gilbert was likely responsible for the construction of the Dyer Barn and was an official of relative prominence in the early agricultural and political development of San Mateo County; as he served as County Surveyor and a county supervisor. However he did not conduct his public duties on the ranch, nor did background research show that his role as a public official was of singular importance in the development of La Honda and San Mateo County, nor was the Dyer Barn an important part in the performance of his duties.

Calvin and Dora Dyer, the namesakes of the Dyer Barn, owned the 615-acre Dyer Ranch from the 1950s through the mid-1980s before selling a 250-acre portion containing the barn to the District. However, prior to that, the Dyers rented out their ranch to tenants while living in an apartment in downtown Palo Alto. The Dyers did not construct the Dyer Barn, use the property as a primary residence, or directly oversee ranching or timber harvesting operations. For these reasons, LSA concludes that the Dyer Barn *is not significant* under Criterion B/2.

*National Register Criterion C: Does it embody the distinctive characteristics of a **type, period, or method of construction**, or represent the work of a master, or possess **high artistic values**?*

*California Register Criterion 3: Does it embody the distinctive characteristics of a **type, period, region, or method of construction**, or represents the work of an **important creative individual**, or possesses **high artistic values**?*

Dyer Barn is a representative example of a Vernacular utilitarian building type associated with mid-19th century agricultural development in San Mateo County and California. Although there is no evidence that it is a work of a master or important creative individual, the building's surviving circa 1860 superstructure is of hand-hewn redwood beams fastened by mortise-and-tenon joinery, which embodies the distinctive architectural characteristics of utilitarian agrarian architecture. The Dyer Barn shows evidence of modification, which is common to these building types that were subsequently adaptively reused by subsequent owners and/or to address deferred maintenance or other damage. For these reasons, LSA concludes that the Dyer Barn *is significant* under Criterion C/3.

*National Register Criterion D: Has it yielded, or may it be likely to yield, **information** important in history or prehistory?*

*California Register Criterion 4: Has it yielded, or may it be likely to yield, **information** important in prehistory or history?*

This criterion is usually used to evaluate the potential for archaeological deposits to contain information important in San Mateo County's historic-period and precontact past. Its application to architecture and the built environment is less common in eligibility evaluations due to modern written sources and other forms of analysis. Although general information about the Vernacular style and mortise-and-tenon construction techniques can be obtained from other sources, the Dyer Barn is a notable example of a local variation on that widely represented style, and especially of that joinery technology. The use of local redwood is an example of the utilization of San Mateo County natural resources extracted and processed in a relatively isolated enclave in the Santa Cruz Mountains. As such, the Dyer Barn represents a local building tradition, labor-intensive craftsmanship, and the use of an important resource that supported economic development and traditional agricultural lifeways in a rural enclave in the 1860s. Further study of the joinery and other carpentry technology and techniques may yield information about the evolution of the style and design of barns in San Mateo County during the mid-19th century. For these reasons, LSA concludes that the Dyer Barn *is significant* under Criterion D/4.

B10. Significance (continued)

Integrity Assessment

Integrity is the ability of a property to convey its significance. To be listed in the National Register or California Register, a property must not only be shown to be significant under the evaluate criteria, but it must also have integrity (National Park Service 1997:44). The integrity of the Dyer Barn was evaluated by LSA. As previously discussed, historic integrity refers to the ability of a resource to convey its significant historical associations. Integrity is a critical component of historical resources that are listed in, or eligible for listing in, the National Register and/or California Register. This subsection discusses the historic integrity of the Dyer Barn with respect to seven aspects: location, setting, design, feeling, materials, workmanship, and association.

- Dyer Barn has not been moved, and retains individual integrity of *location*.
- Dyer Barn retains individual integrity of *feeling*. The building remains an agricultural building within an undeveloped, rural area. The building has been used by various owners, but has retained its overall utilitarian function for over 150 years.
- Dyer Barn retains individual integrity of *setting*. The building remains in an undeveloped, rural area that retains historical land use patterns of cattle ranching on private property or designated open space.
- Dyer Barn retains sufficient integrity of *workmanship*, *design*, and *materials* to convey singular importance as a representative example of a primary utilitarian building. Alterations to the Dyer Barn occurred through time to accommodate different owners and as part of routine maintenance and structural replacement. Alterations included siding repairs, reroofing, and the replacement of rotted components and missing fascia. The building retains sufficient historic fabric to convey its historic appearance and design.
- Dyer Barn retains individual integrity of *association* with ranching operations on the property from the 1860s to today. The District allows grazing on its lands as a grassland management tool to "remove plant biomass and control invasive non-native weeds…maintain native plant communities, enhance biodiversity, increase and regulate nutrient cycling on the environment, improve wildlife habitat and decrease fuel loads to reduce wildfire risk" (Midpeninsula Regional open Space District 2012:48).

Conclusion

Based on background research and the field survey, LSA concludes that the Dyer Barn, consisting of a rectangular wood-frame barn built circa 1860 in central unincorporated San Mateo County, appears eligible for individual inclusion in the National Register and California Register under Criterion A/1 for significant associations with early agricultural land use and development of San Mateo County in the mid-19th through the mid-20th century; under Criterion C/3 as a representative example of a Vernacular utilitarian building type associated with mid-19th century agricultural built environment development in San Mateo County and California; and under Criterion D/4 for the potential to yield information as an early example of local adaptation of the Vernacular architectural style to rural San Mateo County, use of local materials, and mortise-and-tenon joinery construction. For these reasons, the Dyer Barn qualifies as a historical resource for the purposes of CEQA as defined at PRC §21084.1, as defined in §5020.1(k), or deemed significant pursuant to criteria set forth in §5024.1(g).

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P5a. Photograph (Continued)

Dyer Barn, La Honda Creek Open Space Preserve. East and north façades view south. 11/1/17.

Dyer Barn, La Honda Creek Open Space Preserve. East and south façades view west. 11/1/17.

P5a. Photograph (Continued)

Dyer Barn, La Honda Creek Open Space Preserve. South facade, view north. 11/1/17.

Dyer Barn, La Honda Creek Open Space Preserve. West facade, view east. 11/1/17.

P5a. Photograph (Continued)

Dyer Barn, La Honda Creek Open Space Preserve. North and east facades, view southeast. 11/1/17.

Dyer Barn, La Honda Creek Open Space Preserve. North facade, view southeast. 11/1/17.

P5a. Photograph (Continued)

Dyer Barn, La Honda Creek Open Space Preserve. Interior, view northwest. 11/1/17.

Dyer Barn, La Honda Creek Open Space Preserve. Interior, view southeast. 11/1/17.

P5a. Photograph (Continued)

Left - Dyer Barn, La Honda Creek Open Space Preserve. Interior, view southeast. 11/1/17.

Right - Dyer Barn, La Honda Creek Open Space Preserve. Interior, superstructure system. 11/1/17.

P5a. Photograph (Continued)

Dyer Barn, La Honda Creek Open Space Preserve. Interior, view towards northeast corner. 11/1/17.

Dyer Barn, La Honda Creek Open Space Preserve. Interior, view of earthen foundation. 11/1/17.

P5a. Photograph (Continued)

Dyer Barn, La Honda Creek Open Space Preserve. Interior, southwest corner. 11/1/17.

Dyer Barn, La Honda Creek Open Space Preserve. Interior, view right side of south-facing wall. 11/1/17.

P5a. Photograph (Continued)

Dyer Barn, La Honda Creek Open Space Preserve. Interior, mortise-and-tenon detail. 11/1/17.

Dyer Barn, La Honda Creek Open Space Preserve. Interior, mortise-and-tenon detail. 11/1/17.

P5a. Photograph (Continued)

Left: Dyer Barn, La Honda Creek Open Space Preserve. Interior, northeast corner, mortise-and-tenon detail. 11/1/17.

Right - Dyer Barn, La Honda Creek Open Space Preserve. Interior, mortise-and-tenon detail superstructure detail. 11/1/17.

P5a. Photograph (Continued)

Dyer Barn, La Honda Creek Open Space Preserve. Single-family residence built circa 1948 (background), and (2) a two-story, garage built circa 1950 (foreground), south façades, view north. 11/1/17.

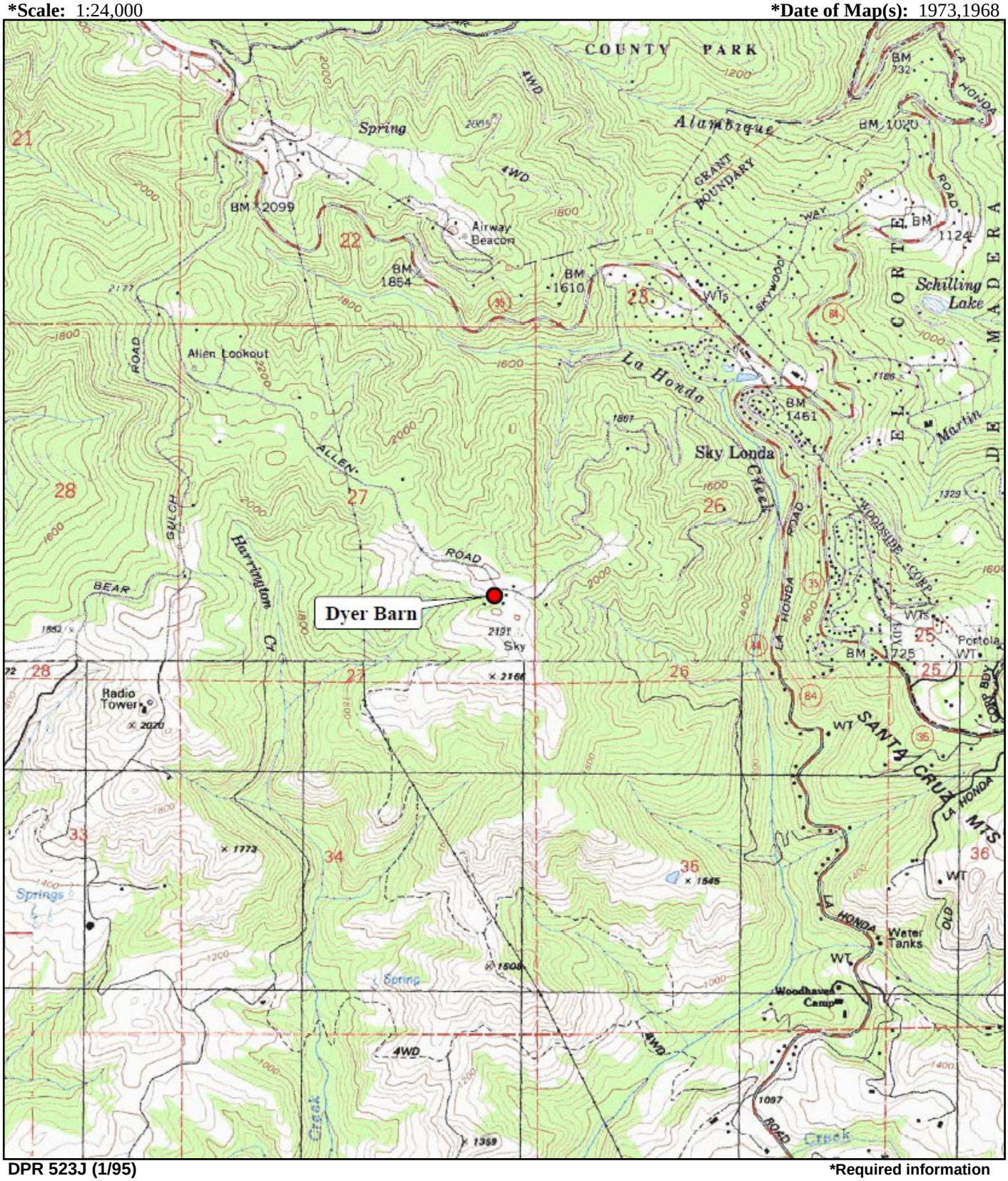
Dyer Barn, La Honda Creek Open Space Preserve.
Two-story, garage built circa 1950 (at left), view southeast. 11/1/17.

State of California — The Resources Agency	Primary #
DEPARTMENT OF PARKS AND RECREATION	HRI#
LOCATION MAP	Trinomial

 ***Resource Name:** Dyer Barn

***Map Name(s):** USGS 7.5' topographic quadrangles: *Woodside, Calif.*,(1973),*La Honda, Calif.* (1968)

***Scale:** 1:24,000 ***Date of Map(s):** 1973,1968



APPENDIX B

STRUCTURAL CONDITIONS ASSESSMENT AND TREATMENT RECOMMENDATIONS – DYER BARN.

Interactive Resources, 2017

INTERACTIVE RESOURCES
architects + engineers

Memorandum

Date:	November 30, 2017
Client:	Midpeninsula Regional Open Space District ATTN: Lisa Infante Bankosh, Open Space Planner III Midpeninsula Regional Open Space District 330 Distel Circle Los Altos, CA 94022
Project Name and Address:	Dyer Barn Conditions Assessment and Recommendations Report, La Honda Creek Open Space Preserve, unincorporated San Mateo County, California.
IR Project No:	2017-082-01

Introduction

At the request of the Midpeninsula Regional Open Space District (District), and working as a consultant to LSA Associates, Inc. (LSA), Interactive Resources, Inc. (IR) has prepared this Dyer Barn Conditions Assessment and Stabilization Recommendations Report (Assessment and Recommendations Report) which establishes design parameters for stabilizing the structure. This analysis identifies the Dyer Barn's character-defining features, describes its architectural and structural conditions In addition it makes specific architectural and structural recommendations for maintaining its historic integrity based on compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties – Preservation Treatment.

LSA found that the Dyer Barn appears eligible for inclusion in both the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR) at the local level of significance under Criterion A/1 for the associations with the early development of ranching in the La Honda area and under Criterion and C/3for its vernacular architectural qualities.

Methodology

To prepare this Assessment and Recommendations Report, IR conducted a site visit on November 1st, 2017. Attending from IR were Charlie Duncan, Preservation Architect, and Al Whitecar, Structural Engineer. Also present were LSA Architectural Historian Michael Hibma, and Leigh Guggemos with the Midpenninsula Regional Open Space District. The purpose of the visit was to gather information on the barn's construction, historic character and physical condition by direct observation.

The sections of this report include:

- Building and Site Description
- Character Defining Features Description
- Conditions and Recommendations
- Consistency with the Secretary of the Interior's Standards Analysis
- Conclusion
- References
- Appendix "A" Suggested Foundation Replacement Details Sketches
- Appendix "B" Preservation Brief 17 *Architectural Character* / Preservation Brief 20 *Historic Barns*

Building and Site Descriptions

Site Description

The Dyer Barn is located at the end of Kebet Ridge Road, Redwood City, San Mateo County, approximately 1.5 miles to the east of the intersection of Bear Gulch Road and Allen Road. Coordinates: Latitude: 37.37793, Longitude: 122.27907.

The Dyer Barn shares an open sloping hillside site with two contemporary buildings: a single-story, approximately 3,100 square-foot, single-family residence approximately 280 feet northeast of Dyer Barn and a two-story, approximately 2,000 square-foot garage or shop uphill of and approximately 120 feet east of Dyer Barn. Generally, the site is open, rolling grassland bound by wooded areas. Dyer Barn stands at an elevation below the contemporary structures at the toe of a hill on a narrow flat section. The barn's north and south façades are oriented roughly east to west. The hillside continues to fall away from the barn's south face into a heavily wooded ravine.

Building Description

***General*.** The Dyer Barn is a Vernacular style example of a mid / late 19th century utilitarian agricultural building. It is a simple gable end structure measuring 25'-8" by 40'-2" in plan. The ridge height is approximately 20 feet above grade, and the plate height at the long walls is roughly 8'-6" above grade. Dyer Barn is covered by a 12" in 12" pitch roof with rafters at a 45 degree angle above level.

Spatially the barn is a single volume, broken up only by structural posts, feeding cribs and low partitions enclosing animal stalls or pens. It is divided into five slightly unequal bays longitudinally from east to west. It is two equal bays wide, side to side forming a north and south aisle on either side of the ridge line.

Materials

- Primary frame –posts and beams: 8” by 8” hand hewn redwood.
- Secondary wall framing braces: 6” by 6” hand hewn redwood.
- Nailers: various dimensions of redwood, machine sawn with circular blade marks.
- Rafters: full cut 2” by 8” redwood (assumed), machine sawn with circular blade marks.
- Skip roof sheathing: full cut 1” by 8” redwood (assumed), machine sawn with circular blade marks.
- Siding: full cut 1” by 12” redwood, machine sawn with circular blade marks, with 1” by 2” battens covering vertical joints.
- Roofing: Corrugated galvanized steel.

Structural. The barn’s foundation is square cross section, redwood lumber bearing on, or partially buried in the earth. This foundation system is typical of post Mexican Land Grant – Early American settlement era structures of the 1850s and 1860s in the San Francisco Bay Area and statewide, corroborating the estimated 1860 date of construction.

The primary building structure is a post and beam system composed of 8 ” by 8 hand hewn redwood members for both the posts and beams. These framing members occur along the long north and south façades, and along the ridgeline (or centerline) of the building. In addition there are horizontal 8 inch by 8 inch members at the gable end walls tying the frames together. The frames are stiffened by wood, 6 inch by 6 inch angle braces. All of the post and beam elements bear on the original redwood foundations suggesting that, they too are part of the original 1860 construction. Of particular note is the fact that all of the wood described above is hand hewn. The finished surfaces have the telltale marks of being worked with edge tools such a broad ax for roughing the square cross section. In addition, the beams forming the top plate of the long walls as well as the ridge beam are each continuous pieces of wood, forty feet long. Our field inspection revealed mortice and tenon construction as the joining method for all post and beam elements. The mortices were cut into the beams and slipped over the tenons cut into the tops of the posts. The diagonal wood frame braces appear to be joined to the posts and beams in a similar way. There are no visible metal fixtures associated with the post and beam framing joinery. These conditions suggest that the wood used for the primary structure of the barn was possibly felled from a nearby wood lot, and worked to shape at the building site.

The roof structure is a series of full cut, 2 inch by 8 inch rafters spaced at 2’- 8” on center. They bear on the 8” by 8” beams along the north and south walls, and span to the central ridge beam. These too appear to be redwood, but the large diameter circular saw marks on the faces indicate that they were cut to dimension in a mill which was likely remote from the barn site. The spanning elements perpendicular to the rafters is a combination of 1” by 6” and 1” by 8” skip sheathing. This wood also bears circular sawing marks similar to those on the rafters. It is notable that the dimension of the gaps between the skip sheathing boards is roughly 18”.

Architectural - exterior. The barn’s cladding on all walls is 1” by 12” redwood, mounted vertically, with the gaps between boards covered with 1” by 2” battens. All exterior cladding wood bears circular saw milling marks. There are two, five foot wide doors at the corners of the east elevation and one similar door at the southern door of the west elevation. In addition there is a single three foot wide “man door” in the second bay from the west on the south elevation wall. All doors are vertical board and batten construction similar to the siding, such that when closed, they blend in with the walls. The east elevation contains two, roughly four foot by four foot, four light windows sharing the same beam forming the head as the doors. They are of a type that post-dates the 1920s, and appear to have been installed at a later date than the siding because of the installation details.

The Dyer Barn's utilitarian character is evident for the lack of trim or ornament. The rafter tails extend about one foot beyond the wall face, are plumb cut, and exposed without fascia or soffit boards. The roof skip sheathing extends beyond the gable end walls by about one foot to form an overhang. The exposed skip sheathing boards are covered by a 1' by 8" board that follows the roof line of the gale end.

The roof is clad with corrugated galvanized steel sheets. The sheets are two feet wide, and between eight and ten feet long. It is evident that the weather face is to the north from rusting, and replacement sheets appear at the west gable end as well as a new ridge cap.

Architectural – interior. For the most part, the interior description of any barn is the space formed by its structure and the visual quality of the exposed construction materials. The Dyer Barn's interior also contains a variety of wooden feeding cribs, and low partitions. There are two enclosed animal pens, one each, at the east and west ends of the structure. The pens are formed by both horizontally and vertically oriented, one inch thick boards of varying widths. All wood used for partitions contains either circular saw, or surface planer milling marks. Additionally, there is a wood floor formed by boards two inches thick and on random width and length. The floor boards are oriented across the width of the barn, and bear on redwood grade beams buried directly in the earth. The wooden feeding cribs and partitions and flooring are significant because they tell the story of how the barn was used.

Character-Defining Features

Character-defining features are the distinctive visual aspects, physical elements, or qualities of a property that contribute significantly to its physical character and convey its historical significance. Prominent features of buildings typically include the overall form, dimensions, proportions, materials, craftsmanship, decorative details, interior spaces and features, as well as various aspects of the its site and environment. (Nelson 1988). In determining the character-defining features of a property, the period of significance must also be taken into consideration in order to establish which features are relevant to the building's historical significance. Relative to the barn's associates with the history of ranching in San Mateo County and its architectural characteristics, LSA has determined that the Period of Significance is from circa 1860 (the estimated date of construction) to 1967 (fifty years back in time from the present).[1]

The visual evidence from the IR team inspection strongly suggests that the Dyer Barn was originally built circa 1860, and partially rebuilt at a point sometime after the 1890s. The main structural post and beam framing elements, which are hand hewn, and still bear on redwood foundation grade beams are clearly original. In general, exterior cladding, roofing, and roof rafters / skip sheathing, (if deteriorated from water intrusion) are building elements prone to weathering and possible replacement over time. At the Dyer Barn all of these elements are of a more recent date than the surviving post and beam structural framing members. These elements are made of wood that was machine sawn and attached with round headed wire nails. The use of round headed nails started to be common in the 1890s, and was the construction industry standard by 1900. Although there are two distinct building phases, the later phase occurred more than fifty years in the past, and should be considered part of the Dyer Barn's historic fabric.

[1] According to National Register Bulletin 15: *How to Apply the National register Criteria for Evaluation*, "fifty years is general estimate of the time needed to develop historical perspective and to evaluate signficnace. This consideration guards against the listing of properties of passing contemporary interest and ensures that the National register is a list of truly *historc* places" (National Park Service 1991:41).

Character-Defining Features Associated with the Setting

- The natural topography of rolling hills;
- The open grasslands; and
- The stand of trees to the south of the barn structure.

Character-Defining Features of the Dyer Barn Exterior

- The tall, simple, one story volume;
- The gable end roof;
- The overhanging eaves with plumb cut exposed rafter tails;
- The vertical board and batten siding;
- Door and window opening sizes and locations;
- Board and batten doors; four light windows, and
- Corrugated metal roofing.

Character-Defining Features of the Dyer Barn Interior

- The exposed post and beam, hand hewn, structural framework;
- The exposed machine sawn roof rafters and skip sheathing;
- The interior division of space;
- Wood board flooring; and
- Wood stalls, feeding cribs and pens.

Conditions and Recommendations

Structural

Foundation conditions: The original redwood grade beam foundations are original to the Dyer Barn's construction, and have sustained over 150 years of earth / wood contact. They are severely deteriorated to the extent that they no longer provide adequate bearing for the post and beam structure above. In addition, the interior redwood grade beams that support the floor are also severely deteriorated. The barn has a distinct lean to the southwest caused by the physical loss of foundation wood.

Recommendations: The deteriorated wood grade beams must be replaced with a permanent concrete perimeter foundation and a concrete grade beam below the posts along the center-line carrying the ridge beam. In addition, the east to west oriented wood grade beams carrying the floor should also be replaced with concrete. This treatment will ensure the longevity of the lower wooden elements by removing them from direct contact with soil. The new concrete foundations should be designed so that there is at least a six inch separation between any wood element and the earth. They should also be designed to retain the dimensional relationship between the top of the wood floor and the top of the east to west spanning beams. The barn will have to be lifted off the ground to properly excavate and pour the concrete foundations. Any original material that will be temporarily removed to perform this operation will be identified, numbered, and recorded by a preservation architect to allow for re-installation at its original location. Also see the recommendations for the post and beam system below.

Original 1860 post and beam framing system conditions: The foundation deterioration has apparently penetrated into the bottom of the posts, particularly along the perimeter. The horizontal tie beam across

the west gable end elevation also shows clear signs of decay from termite activity.

Recommendations: Determining the full extent of deterioration at the post bottoms as well as deterioration from insect activity is outside the scope of this report and is currently unknown. All structural post and beam framing elements should be surveyed for deterioration, given catalog numbers and recorded by a preservation architect in conjunction with a structural engineer. The goal is to re-use as much historic fabric as possible. Where the post bottoms are decayed, they may be cut back to sound material and placed on a new wood sill plate bolted to the new concrete foundation. The sill plate can be built up to make up the lost dimension caused by the deteriorated wood removal. Where a framing member is deteriorated beyond its continued use, it should be replaced in-kind considering its dimensions and material. Because the surviving posts and beams are hand hewn, replacement material should be distinct from the original by using wood with a smooth, machine milled surface.

Roof framing system conditions: The roof rafters and skip sheathing show no visible signs of deterioration from water intrusion or insect activity.

Recommendations: The extent of deterioration in the roof framing system is unknown, and beyond the scope of this report. A survey should be conducted by a preservation architect, prior to construction, to determine the extent of deterioration (if any), and the material that is deteriorated beyond use should be replaced in-kind.

Please see the suggested structural detail sketches for the foundation replacement in Appendix A.

Architectural

Exterior wood cladding conditions: The exterior cladding, while not original, has clearly been in place for some decades. It is weathered on all sides with more severe weathering on the north elevation. In addition there are missing sections on both the east and west gable ends and on the north wall. Each elevation contains some partially detached boards. A large percentage of the battens covering the vertical gaps between the cladding boards are missing. Also deterioration caused by earth to wood contact at the bottom of the boards is found in various locations around the entire perimeter of the Dyer Barn and extends up into the siding approximately six to eight inches.

Recommendations: The majority of siding still has a useful service life and should be retained. Where boards are missing, they should be replaced in-kind. Where the boards have come loose, they should be nailed back into position. Because water intrusion is a major issue, the 1’ x 2” battens covering the vertical gaps between the boards should be replaced in-kind. Finally, it is clear from the field survey that Dyer Barn was originally painted. After all major work is complete, the barn siding should be gently cleaned, primed, and repainted to stabilize, preserve, and extend the working life of the historic siding.

Wood door conditions: The wood doors are generally in better condition than the surrounding siding. While weathered, and missing some battens, they are generally sound. All of the doors appear to be sagging in their openings because the barn is not square and plumb and some of the strap hinges have failed as well.

Recommendations: If structural work is pursued, the doors should be removed and repaired reusing as much original material as possible. Where deterioration requires replacement, all wood should match the

existing material. The new foundation will allow the barn to sit level and square; therefore, if required the doors should be squared to match the openings. The installation of new strap hinges to match those that are deteriorated, is recommended.

Wood window conditions: Only one of the two wood fixed windows was visible, but it appears to be sound.

Recommendations: The windows should be surveyed and assessed by a preservation architect for repairs. If foundation work is undertaken they should be removed, professionally repaired and re-painted, and / or re-glazed in a shop, and re-installed using the original method.

Corrugated metal roof conditions: The date of the roof material is unknown, but it is likely not more than twenty five years old. It appears to be in good condition. The north side is rusted, and contains some replacement material. From the inside the roofing appears new without stains, rust or any marks on the rafters indicating water intrusion.

Recommendations: While corrosion is evident, the roof appears to be sound. We recommend monitoring for failure indicated by evidence of water intrusion, at which point complete in-kind replacement is appropriate.

Wood floor conditions: The wood flooring is generally in place, but some of the boards show deterioration, especially at the perimeter where they were in contact with the redwood foundation elements. Also much of the flooring is dislodged.

Recommendations: If foundation work is undertaken, the wood flooring will have to be removed to enable in installation of new foundations, and to create new bearing points for the floor boards. Each board must be individually numbered and catalogued on a plan showing its location and orientation. The boards should be safely stored in a secure location, outside the area of construction, and stacked to allow airflow around each piece to prevent cupping and warping. Where the boards are too severely deteriorated to re-install, they should be replaced in-kind. After the foundation work is complete, each board will be returned to its original location and orientation as directed by the survey documentation.

Interior wood feeding crib / pen / partition conditions: The wooden elements related to the care and feeding of livestock are generally sound, and in place with no material deterioration, but they are in a state of disrepair.

Recommendations: If foundation work is undertaken, the wooden cribs and partitions will be in the way of the work. All of these elements must be surveyed and documented in photographs and drawings. Each piece should be numbered and recorded with its location marked on a plan. The elements should be disassembled in the largest sections possible and safely stored until the foundation work is complete. After the flooring has been installed the elements can be re-assembled using the survey documentation.

Consistency with the Secretary of the Interior's Standards

In accordance with the requirements of the California Environmental Quality Act (CEQA), any work on this property should be done in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and*

Reconstructing Historic Buildings (Weeks and Grimmer 1995).[2]
The Secretary's Standards comprise four sets of standards to guide the treatment of historic properties: *Preservation, Rehabilitation, Restoration,* and *Reconstruction* (Weeks and Grimmer 1995:2). Those four distinct treatments are defined as follows:

Preservation: The Standards for Preservation "... require retention of the greatest amount of historic fabric, along with the building's historic form, features, and detailing as they have evolved over time."

Rehabilitation: The Standards for Rehabilitation "... acknowledge the need to alter or add to a historic building to meet continuing new uses while retaining the building's historic character."

Restoration: The Standards for Restoration "... allow for the depiction of a building at a particular time in its history by preserving materials from the period of significance and removing materials from other periods."

Reconstruction: The Standards for Reconstruction "... establish a limited framework for re-creating a vanished or non-surviving building with new materials, primarily for interpretive purposes."

As it is currently understood, future work involving the Dyer Barn is a stabilization project, which requires the use of the *Preservation* treatment as defined by the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Secretary's Standards):

> "*Preservation* is the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electric al and plumbing systems and other code-required work to properties functional is appropri9aate within a preservation project."

IR understands the District is seeking to stabilize and repair Dyer Barn to prevent further deterioration and secure the building against vandalism. In this context, the relevant treatment as defined by the Secretary's Standards is *Preservation,* as stated and discussed below. In addition to the Secretary's Standards, there are numerous technical publications issued by the National Park Service that expand upon the concepts outlined in the guidelines and address specific issues that arise in preservation work. These publications are numerous and will not all apply to a given project. They will be referenced only as-needed.

1. A property will be used as it was historically, or be given a new use that maximizes the retention

[2] According to CEQA Guidelines §15064.5(b), a proposed project may have a significant effect on the environment if it would create "an effect that may cause a substantial adverse change in the significance of a historical resource." Specifically, substantial adverse changes include "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines §15064.5(b)(1)). With respect to mitigating such impacts, CEQA Guidelines §15064.5(b)(3) states: *Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), shall be considered as mitigated to a level of less than a significant impact on the historical resource.* [Italics added].

of distinctive materials, features spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.

Comment: The Dyer Barn has served as a utilitarian agricultural and storage building for over 157 years. Any new purpose that deviates from an agricultural or storage use should require minimal changes to the building's character defining features, its site and its environment. Most significantly, the building's volume and significant exterior features should remain. Because its archaic foundations (direct burial of wood in the earth) are the primary area of deterioration, putting the entire building at risk, replacement with concrete foundations is recommended. This is a generally accepted treatment in structures of this type and age, which will ensure the longevity of the resource.

2. The historic character of a property shall be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

   Comment: In order to retain the historic character of the Dyer Barn, repairs should take into account the character-defining features identified in this report and every effort taken to preserve those features. The, workmanship, materials, and the volume are three of the most significant features of the resource. The wooden foundations are well beyond their service life and cannot be repaired. As they are below grade, and for the most part not visible, their replacement in new materials that have and inherent longevity will not compromise this historic character of the barn. In addition one of the main 8" by 8" cross beams at the west elevations shows substantial termite infestation. A full survey of deterioration from dry rot or insect infestation should be conducted by a preservation architect in conjunction with a structural engineer to determine the full extent of necessary in-kind replacement.

   See Preservation Brief 20: The Preservation of Historic Barns, available at https://www.nps.gov/tps/how-to-preserve/briefs/20-barns.htm for additional guidance on the characteristics of historic barns.

3. Each property shall be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection and properly documented for future research.

   Comment: All recommended stabilization work will conserve existing materials, unless deteriorated to a point requiring replacement. As stated above, this will include the foundations and identified wood elements such that if left un-treated, will compromise the resource.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

   Comment: It is evident that the Dyer Barn was repaired and partially rebuilt at a point in time well after its original construction in the 1860s. It is also clear that those changes are over fifty years old, placing them within the period of significance (circa 1860 to 1967). These changes to the original barn as described above have gained historical significance and should be preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

Comment: The identified character-defining features of the Dyer Barn (listed above) should be preserved as much as possible if the proposed preservation treatment of the Dyer Barn is undertaken.

See Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character, available at https://www.nps.gov/tps/how-to-preserve/briefs/17-architectural-character.htm for information on how character-defining features are determined.

6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair of limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.

   Comment: Any future work adhering to the preservation treatment recommendations should follow the requirement of repairing first and then replacing in kind when features are too deteriorated to be repaired. Further, the design of any replacement elements should be based on documented evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

   Comment: No chemical or harsh treatments will be required for the repair work on the Dyer Barn. Before cleaning the building, particularly grime and dirt on the interior, a qualified contractor with experience in cleaning historic materials should conduct cleaning tests on sample areas to establish the most appropriate and gentlest methods.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures shall be undertaken.

   Comment: Archeological resources may be found at the site relating to the Dyer Barn's use as an early agricultural building. If resources are found during construction, a qualified archeologist will be retained to assess and protect the finds. If the resources will be disturbed by the construction, the archeologist will determine the required mitigation measures.

Conclusion

Any proposed work to the Dyer Barn, or its immediate setting, should be undertaken in a manner that avoids or minimizes the potential diminishment of its historic integrity or significance. The character-defining features identified and listed in this report comprise the primary elements that convey the Dyer Barn's historical significance at the local level and supports inclusion as an individual historical resource in the NRHP and CRHR. Based on the District's goal of stabilizing the Dyer Barn, all proposed work must comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties using the Preservation Treatment. In addition, the National Park Service technical publications cited in the text above may be referenced where applicable. By following the Secretary's Standards and associated technical guidelines, the Dyer Barn will continue to physically maintain its associations with the early development of ranching in the La Honda area, as well as maintaining its mid-19th century vernacular architectural qualities.

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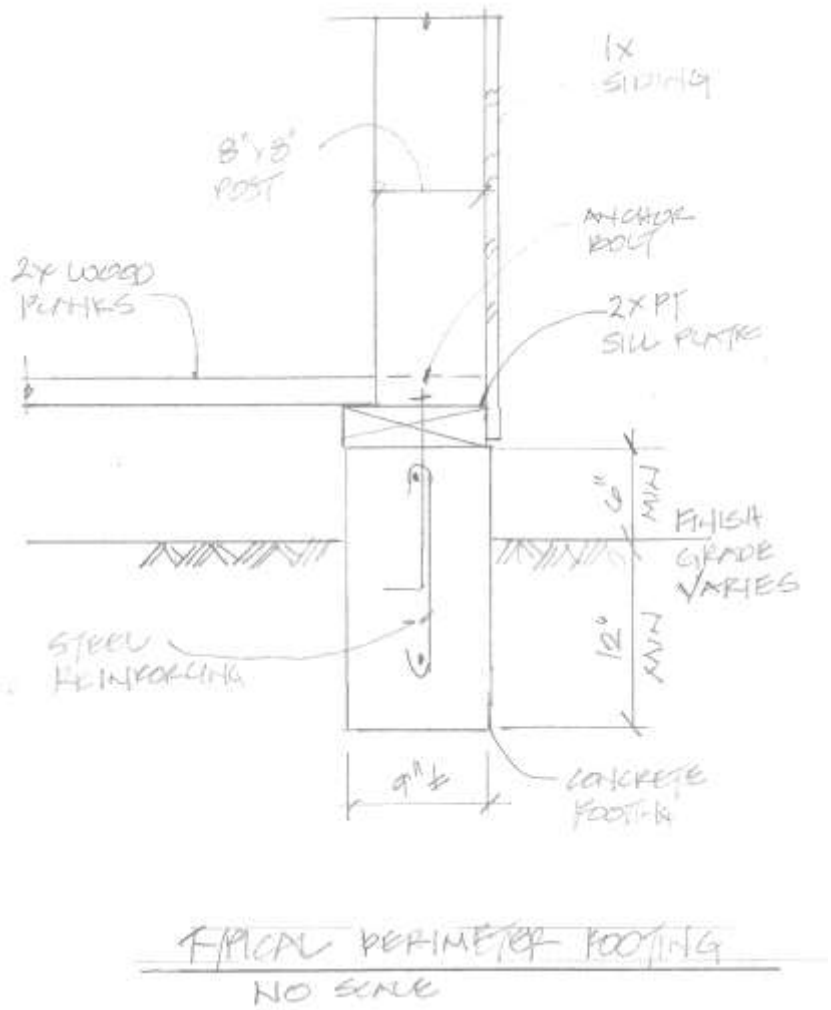
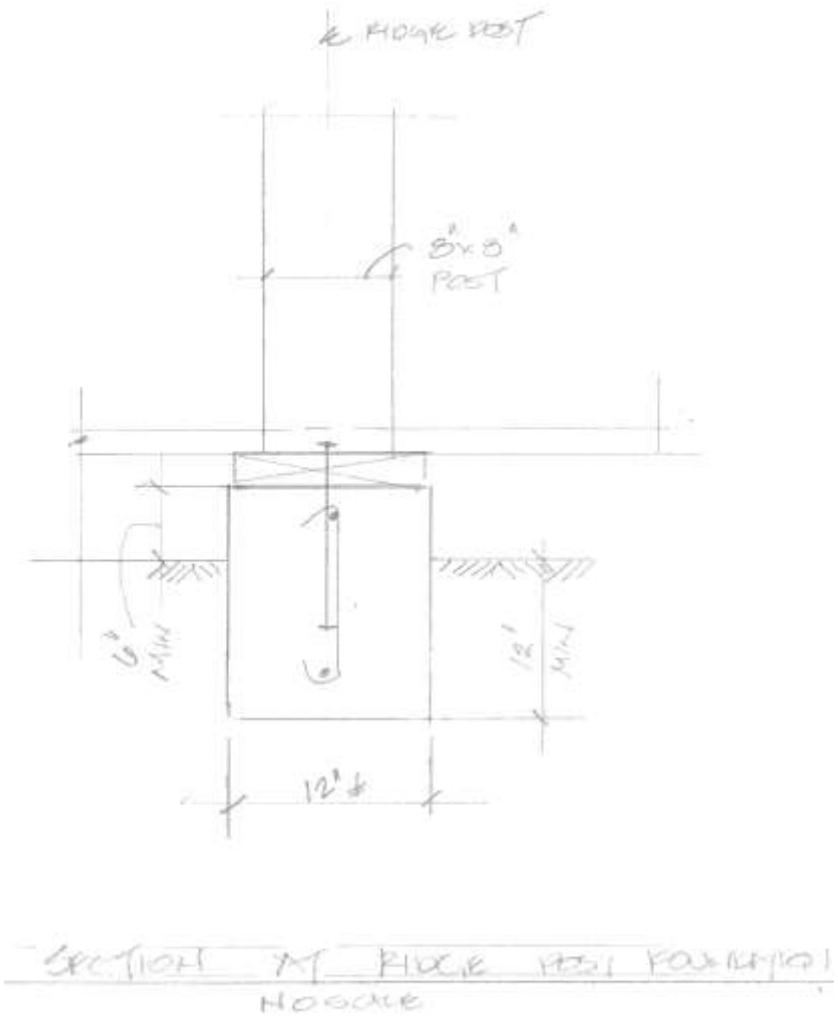
Appendix A

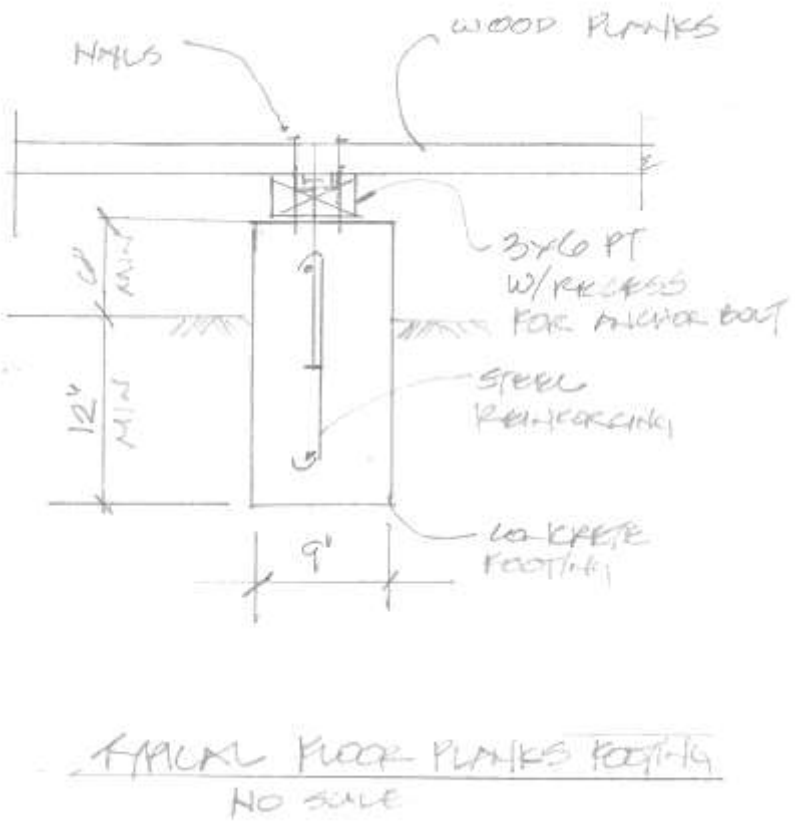
Suggested Foundation Replacement Details Sketches.



Detail 1. Typical Perimeter Footing



Detail 2. Section at Ridge Post Footing



Detail 3. Typical Floor Plank Footing

Appendix B

Preservation Briefs
Technical Preservation Services
National Park Service
U.S. Department of the Interior

Preservation Brief 17 – Architectural Character
Preservation Brief 20 – The Preservation of Historic Barns

PRESERVATION BRIEFS

17

Close-up of stone wall, showing craftsmanship. Photo: NPS files.

Architectural Character—Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character

Lee H. Nelson, FAIA

- Three-Step Process to Identify the Visual Character
- Step 1: Overall Visual Aspects
- Step 2: Visual Character at Close Range
- Step 3: Interior Spaces, Features and Finishes
- The Architectural Character Checklist/Questionnaire
- Summary and References

The Secretary of the Interior's Standards for the Treatment of Historic Properties **embody two important goals: 1) the preservation of historic materials and, 2) the preservation of a building's distinguishing character.** Every old building is unique, with its own identity and its own distinctive character. Character refers to all those visual aspects and physical features that comprise the appearance of every historic building. Character-defining elements include the overall shape of the building, its materials, craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its site and environment. The purpose of this Brief is to help the owner or the architect identify those features or elements that give the building its visual character and that should be taken into account in order to preserve them to the maximum extent possible.

There are different ways of understanding old buildings. They can be seen as examples of

specific building types, which are usually related to a building's function, such as schools, courthouses or churches.

Buildings can be studied as examples of using specific materials such as concrete, wood, steel, or limestone. They can also be considered as examples of an historical period, which is often related to a specific architectural style, such as Gothic Revival farmhouses, one-story bungalows, or Art Deco apartment buildings.

There are many other facets of an historic building besides its functional type, its materials or construction or style that contribute to its historic qualities or significance. Some of these qualities are feelings conveyed by the sense of time and place or in buildings associated with events or people. A complete understanding of any property may require documentary research about its style, construction, function, its furnishings or contents; knowledge about the original builder, owners, and later occupants; and knowledge about the evolutionary history of the building. Even though buildings may be of historic, rather than architectural significance, it is their tangible elements that embody its significance for association with specific events or persons and it is those tangible elements both on the exterior and interior that should be preserved.

Therefore, the approach taken in this Brief is limited to **identifying those visual and tangible aspects of the historic building**. While this may aid in the planning process for carrying out any ongoing or new use or restoration of the building, this approach is not a substitute for developing an understanding about the significance of an historic building and the district in which it is located. If the various materials, features and spaces that give a building its visual character are not recognized and preserved, then essential aspects of its character may be damaged in the process of change.

A building's character can be irreversibly damaged or changed in many ways, for example, by inappropriate repointing of the brickwork, by removal of a distinctive side porch, by changes to the window sash, by changes to the setting around the building, by changes to the major room arrangements, by the introduction of an atrium, by painting previously unpainted woodwork, etc.

Three-Step Process to Identify the Visual Character

This Brief outlines a three-step approach that can be used by anyone to identify those materials, features and spaces that contribute to the visual character of a building. This approach involves first examining the building from afar to understand its overall setting and architectural context; then moving up very close to appreciate its materials and the craftsmanship and surface finishes evident in these materials; and then going into and through the building to perceive those spaces, rooms and details that comprise its interior visual character.

Step 1: Identify the Overall Visual Aspects

Identifying the overall visual character of a building is nothing more than looking at its distinguishing physical aspects without focusing on its details. The major contributors to a building's overall character are embodied in the general aspects of its setting; the shape of the building; its roof and roof features, such as chimneys or cupolas; the various projections on the building, such as porches or bay windows; the recesses or voids in a building, such as open galleries, arcades, or recessed balconies; the openings for windows and doorways; and finally the various exterior materials that contribute to the building's character.

Step One involves looking at the building from a distance to understand the character of its site and setting, and it involves walking around the building where that is possible. Some buildings will have one or more sides that are more important than the others because they are more highly visible. This does not mean that the rear of the building is of no value whatever but it simply means that it is less important to the overall character. On the other hand, the rear may have an interesting back porch or offer a private garden space or some other aspect that may contribute to the visual character. Such a general approach to looking at the building and site will provide a better understanding of its overall character without having to resort to an infinitely long checklist of its possible features and details. Regardless of whether a building is complicated or relatively plain, it is these broad categories that contribute to an understanding of the overall character rather than the specifics of architectural features such as moldings and their profiles.

Left Photo—Overall Visual Character: Shape. Right Photo—Overall Visual Character: Openings.

Overall Visual Character: Shape

The **shape** of a building can be an important aspect of its overall visual character. The building illustrated here, for example, has a distinctive horizontal boxlike shape with the middle portion of the box projecting up an extra story.

This building has other visual aspects that help define its overall character, including the pattern of vertical bands of windows, the decorative horizontal bands which separate the base of the building from the upper floors, the dark brown color of the brick, the large arched entranceway, and the castle-like tower behind the building.

Overall Visual Character: Openings

The **opening** illustrated here dominates the visual character of this building because of its size, shape, location, materials, and craftsmanship. Because of its relation to the generous staircase, this opening places a strong emphasis on the principal entry to the building. Enclosing this arcade-like entry with glass, for example, would materially and visually change the character of the building.

Overall Visual Character: Roof and Related Features

Overall Visual Character: Roof and Related Features

This building pictured on the left has a number of character-defining aspects which include the windows and the decorative stonework, but certainly the roof and its related features are visually important to its overall visual character. The **roof** is not only highly visible, it has elaborate stone dormers, and it also has decorative metalwork and slatework. The red and black slates of differing sizes and shapes are laid in patterns that extend around the roof of this large and freestanding building. Any changes to this patterned slatework, or to the other roofing details would damage the visual character of the building.

Overall Visual Character: Roof and Related Features

On this building pictured on the right, the most important visual aspects of its character are the **roof and its related features**, such as the dormers and chimneys. The roof is important to the visual character because its steepness makes it highly visible, and its prominence is reinforced by the patterned tinwork, the six dormers and the two chimneys. Changes to the roof or its features, such as removal or alterations to the dormers, for example, would certainly change the character of this building. This does not discount the importance of its other aspects, such as the porch, the windows, the brickwork, or its setting; but the roof is clearly crucial to understanding the overall visual character of this building as seen from a distance.



Left Photo—Overall Visual Character: Projections. Middle Photo—Overall Visual Character: Trim. Right Photo—Overall Visual Character: Setting.

Overall Visual Character: Projections

A **projecting porch or balcony** can be very important to the overall visual character of almost any building and to the district in which it is located. Despite the size of this building (3-1/2 stories), and its distinctive roofline profile, and despite the importance of the very large window openings, the lacy wrap-around iron balcony is singularly important to the visual character of this building. It would seriously affect the character to remove the balcony, to enclose it, or to replace it with a balcony lacking the same degree of detail of the original material.

Overall Visual Character: Trim

If one were to analyze the overall shape or form of this building, it would be seen that it is a gable-roofed house with dormers and a wrap-around porch. It is similar to many other houses of the period. It is the **wooden trim** on the eaves and around the porch that gives this building its own identify and its special visual character.

Although such wooden trim is vulnerable to the elements, and must be kept painted to prevent deterioration; the loss of this trim would seriously damage the overall visual character of this building, and its loss would obliterate much of the closeup visual character so dependent upon craftsmanship for the moldings, carvings, and the see-through jigsaw work.

Overall Visual Character: Setting

Even architecturally modest buildings frequently will have a **setting** that contributes to their overall character. In this very urban district, setbacks are the exception, so that the small front yard is something of a luxury, and it is important to the overall character because of its design and materials, which include the iron fence along the sidewalk, the curved walk leading to the porch, and the various plantings. In a district where parking spaces are in great demand, such front yards are sometimes converted to off-street parking, but in this instance, that would essentially destroy its setting and would drastically change the visual character of this historic property.

Step 2: Visual Character at Close Range

Step Two involves looking at the building at close range or arm's length, where it is possible to see all the surface qualities of the materials, such as their color and texture, or surface evidence of craftsmanship or age. In some instances, the visual character is the result of the juxtaposition of materials that are contrastingly different in their color and texture. The surface qualities of the materials may be important because they impart the very sense of craftsmanship and age that distinguishes historic buildings from other buildings. Furthermore, many of these close up qualities can be easily damaged or obscured by work that affects those surfaces. Examples of this could include painting previously unpainted masonry, rotary disk sanding of smooth wood siding to remove paint, abrasive cleaning of tooled stonework, or repointing reddish mortar joints with gray portland cement.

There is an almost infinite variety of surface materials, textures and finishes that are part of a building's character which are fragile and easily lost.

Arm's Length Visual Character: Materials

Arm's Length Visual Character: Materials

At arm's length, the visual character is most often determined by the surface qualities of the **materials and craftsmanship**; and while these aspects are often inextricably related, the original choice of materials often plays the dominant role in establishing the close range character because of the color, texture, or shape of the materials.

In this instance, the variety and arrangement of the materials is important in defining the visual character, starting with the large pieces of broken stone which form the projecting base for the building walls, then changing to a wall of roughly rectangular stones which vary in size, color, and texture, all with accentuated, projecting beads of mortar, then there is a rather precise and narrow band of cut and dressed stones with minimal mortar joints, and finally, the main building walls are composed of bricks, rather uniform in color, with fairly generous mortar joints. It is the juxtaposition and variety of these materials (and of course, the craftsmanship) that is very important to the visual character. Changing the raised mortar joints, for example, would

drastically alter the character at arm's length.

Arm's Length Visual Character: Craft Details

Arm's Length Visual Character: Craft Details

There are many instances where **craft details** dominate the arm's length visual character. As seen here, the craft details are especially noticeable because the stones are all of a uniform color, and they are all squared off, but their surfaces were worked with differing tools and techniques to create a great variety of textures, resulting in a tour-de-force of craft details. This texture is very important at close range. It was a deliberately contrived surface that is an important contributor to the visual character of this building.

Step 3: Identify the Visual Character of Interior Spaces, Features and Finishes

Interior Visual Character: Interior Features

Perceiving the character of interior spaces can be somewhat more difficult than dealing with the exterior. In part, this is because so much of the exterior can be seen at one time and it is

possible to grasp its essential character rather quickly. To understand the interior character, Step Three says it is necessary to move through the spaces one at a time. While it is not difficult to perceive the character of one individual room, it becomes more difficult to deal with spaces that are interconnected and interrelated. Sometimes, as in office buildings, it is the vestibules or lobbies or corridors that are important to the interior character of the building. With other groups of buildings the visual qualities of the interior are related to the plan of the building, as in a church with its axial plan creating a narrow tunnel-like space which obviously has a different character than an open space like a sports pavilion. Thus the shape of the space may be an essential part of its character.

With some buildings it is possible to perceive that there is a visual linkage in a sequence of spaces, as in a hotel, from the lobby to the grand staircase to the ballroom. Closing off the openings between those spaces would change the character from visually linked spaces to a series of closed spaces. For example, in a house that has a front and back parlor linked with an open archway, the two rooms are perceived together, and this visual relationship is part of the character of the building. To close off the open archway would change the character of such a residence.

The importance of interior features and finishes to the character of the building should not be overlooked. In relatively simple rooms, the primary visual aspects may be in features such as fireplace mantels, lighting fixtures or wooden floors. In some rooms, the absolute plainness is the character-defining aspect of the interior. So-called secondary spaces also may be important in their own way, from the standpoint of history or because of the family activities that occurred in those rooms. Such secondary spaces, while perhaps historically significant, are not usually perceived as important to the visual character of the building. Thus we do not take them into account in the visual understanding of the building.

Interior Visual Character: Individually Important Spaces

Interior Visual Character: Individually Important Spaces

In assessing the interior visual character of any historic building, it is necessary to ask whether there are spaces that are important to the character of this particular building, whether the building is architecturally rich or modest, or even if it is a simple or utilitarian structure.

The character of the **individually important space**, which is illustrated here, is a combination of its size, the twin curving staircases, the massive columns and curving vaulted ceilings, in addition to the quality of the materials in the floor and in the stairs. If the ceiling were to be

lowered to provide space for heating ducts, or if the stairways were to be enclosed for code reasons, the shape and character of this space would be damaged, even if there was no permanent physical damage. Such changes can easily destroy the visual character of an individually important interior space. Thus, it is important that the visual aspects of a building's interior character be recognized before planning any changes or alterations.

Interior Visual Character: Related Spaces

Interior Visual Character: Related Spaces

Many buildings have interior spaces that are visually or physically related so that, as you move through them, they are perceived not as separate spaces, but as a sequence of **related spaces** that are important in defining the interior character of the building. The example which is illustrated here consists of two spaces that are visually linked to each other.

The photo shows a vestibule which is of a generous size and unusual in its own right, but more important, it visually relates to the staircase off of it.

The stairway, bottom photo, is the second part of this sequence of related spaces, and it provides continuing access to the upper floors. These related spaces are very important in defining the interior character of this building. Almost any change to these spaces, such as installing doors between the vestibule and the hallway, or enclosing the stair would seriously impact their character and the way that character is perceived.

Interior Visual Character: Interior Features

Interior Visual Character: Interior Features

Interior features are three-dimensional building elements or architectural details that are an integral part of the building as opposed to furniture. Interior features are often important in

defining the character of an individual room or space. In some instances, an interior feature, like a large and ornamental open stairway may dominate the visual character of an entire building. In other instances, a modest iron stairway (like the one illustrated here) may be an important interior feature, and its preservation would be crucial to preserving the interior character of the building.

Such features can also include the obvious things like fireplace mantles, plaster ceiling medallions, or paneling, but they also extend to features like hardware, lighting fixtures, bank tellers cages, decorative elevator doors, etc.

Interior Visual Character: Surface Materials and Finishes

Interior Visual Character: Surface Materials and Finishes

When identifying the visual character of historic interior spaces one should not overlook the importance of those materials and finishes that comprise the **surfaces of walls, floors and ceilings**. The surfaces may have evidence of either handcraft or machine made products that are important contributors to the visual character, including patterned or inlaid designs in the wood flooring, decorative painting practices such as stenciling, imitation marble or wood grain, wallpapering, tinwork, tile floors, etc.

The example illustrated here involves a combination of real marble at the base of the column, imitation marble patterns on the plaster surface of the column (a practice called scagliola), and a tile floor surface that uses small mosaic tiles arranged to form geometric designs in several different colors. While such decorative materials and finishes may be important in defining the interior visual character of this particular building, it should be remembered that in much more modest buildings, the plainness of surface materials and finishes may be an essential aspect of their historic character.

Interior: Exposed Structure

Interior: Exposed Structure

If features of the **structural system** are exposed, such as loadbearing brick walls, cast iron columns, roof trusses, posts and beams, vigas, or stone foundation walls, they may be important in defining the building's interior visual character.

Fragility of A Building's Visual Character

Fragility of A Building's Visual Character

Some aspects of a building's visual character are fragile and are easily lost. This is true of brickwork, for example, which can be irreversibly damaged with inappropriate cleaning techniques or by insensitive repointing practices. At least two factors are important contributors to the visual character of brickwork, namely the brick itself and the craftsmanship. Between

these, there are many more aspects worth noting, such as color range of bricks, size and shape variations, texture, bonding patterns, together with the many variable qualities of the mortar joints, such as color, width of joint and tooling.
These qualities could be easily damaged by painting the brick, by raking out the joint with power tools, or repointing with a joint that is too wide. As seen here during the process of repointing, the visual character of this front wall is being dramatically changed from a wall where the bricks predominate, to a wall that is visually dominated by the mortar joints.

The Architectural Character Checklist/Questionnaire

This checklist can be taken to the building and used to identify those aspects that give the building and setting its essential visual qualities and character. This checklist consists of a series of questions that are designed to help in identifying those things that contribute to a building's character. The use of this checklist involves the three step process of looking for: 1) the overall visual aspects, 2) the visual character at close range, and 3) the visual character of interior spaces, features and finishes.
Because this is a process to identify architectural character, it does not address those intangible qualities that give a property or building or its contents its historic significance, instead this checklist is organized on the assumption that historic significance is embodied in those tangible aspects that include the building's setting, its form and fabric.

STEP ONE

1. Shape

What is there about the form or shape of the building that gives the building its identity? Is the shape distinctive in relation to the neighboring buildings? Is it simply a low, squat box, or is it a tall, narrow building with a corner tower? Is the shape highly consistent with its neighbors? Is the shape so complicated because of wings, or ells, or differences in height, that its complexity is important to its character? Conversely, is the shape so simple or plain that adding a feature like a porch would change that character? Does the shape convey its historic function as in smoke stacks or silos?

2. Roof and Roof Features

Does the roof shape or its steep (or shallow) slope contribute to the building's character? Does the fact that the roof is highly visible (or not visible at all) contribute to the architectural identity of the building? Are certain roof features important to the profile of the building against the sky or its background, such as cupolas, multiple chimneys, dormers, cresting, or weather vanes? Are the roofing materials or their colors or their patterns (such as patterned slates) more noticeable than the shape or slope of the roof?

3. Openings

Is there a rhythm or pattern to the arrangement of windows or other openings in the walls; like the rhythm of windows in a factory building, or a three part window in the front bay of a house; or is there a noticeable relationship between the width of the window openings and the wall

space between the window openings? Are there distinctive openings, like a large arched entranceway, or decorative window lintels that accentuate the importance the window openings, or unusually shaped windows, or patterned window sash, like small panes of glass in the windows or doors, that are important to the character? Is the plainness of the window openings such that adding shutters or gingerbread trim would radically change its character? Is there a hierarchy of facades that make the front windows more important than the side windows? What about those walls where the absence of windows establishes its own character?

4. Projections

Are there parts of the building that are characterdefining because they project from the walls of the building like porches, cornices, bay windows, or balconies? Are there turrets, or widely overhanging eaves, projecting pediments or chimneys?

5. Trim and Secondary Features

Does the trim around the windows or doors contribute to the character of the building? Is there other trim on the walls or around the projections that, because of its decoration or color or patterning contributes to the character of the building? Are there secondary features such as shutters, decorative gables, railings, or exterior wall panels?

6. Materials

Do the materials or combination of materials contribute to the overall character of the building as seen from a distance because of their color or patterning, such as broken faced stone, scalloped wall shingling, rounded rock foundation walls, boards and battens, or textured stucco?

7. Setting

What are the aspects of the setting that are important to the visual character? For example, is the alignment of buildings along a city street and their relationship to the sidewalk the essential aspect of its setting? Or, conversely, is the essential character dependent upon the tree plantings and out buildings which surround the farmhouse? Is the front yard important to the setting of the modest house? Is the specific site important to the setting such as being on a hilltop, along a river, or, is the building placed on the site in such a way to enhance its setting? Is there a special relationship to the adjoining streets and other buildings? Is there a view? Is there fencing, planting, terracing, walkways or any other landscape aspects that contribute to the setting?

STEP TWO

8. Materials at Close Range

Are there one or more materials that have an inherent texture that contributes to the close range character, such as stucco, exposed aggregate concrete, or brick textured with vertical grooves? Or materials with inherent colors such as smooth orange colored brick with dark spots of iron pyrites, or prominently veined stone, or green serpentine stone? Are there combinations of materials, used in juxtaposition, such as several different kinds of stone, combinations of stone and brick, dressed stones for window lintels used in conjunction with rough stones for the wall? Has the choice of materials or the combinations of materials contributed to the character?

9. Craft Details

Is there high quality brickwork with narrow mortar joints? Is there hand tooled or patterned stonework? Do the walls exhibit carefully struck vertical mortar joints and recessed horizontal

joints? Is the wall shinglework laid up in patterns or does it retain evidence of the circular saw marks or can the grain of the wood be seen through the semitransparent stain? Are there hand split or handdressed clapboards, or machine smooth beveled siding, or wood rusticated to look like stone, or Art Deco zigzag designs executed in stucco?

Almost any evidence of craft details, whether handmade or machinemade, will contribute to the character of a building because it is a manifestation of the materials, of the times in which the work was done, and of the tools and processes that were used. It further reflects the effects of time, of maintenance (and/or neglect) that the building has received over the years. All of these aspects are a part of the surface qualities that are seen only at close range.

STEP THREE

10. Individual Spaces

Are there individual rooms or spaces that are important to this building because of their size, height, proportion, configuration, or function, like the center hallway in a house, or the bank lobby, or the school auditorium, or the ballroom in a hotel, or a courtroom in a county courthouse?

11. Related Spaces and Sequences of Spaces

Are there adjoining rooms that are visually and physically related with large doorways or open archways so that they are perceived as related rooms as opposed to separate rooms? Is there an important sequence of spaces that are related to each other, such as the sequence from the entry way to the lobby to the stairway and to the upper balcony as in a theatre; or the sequence in a residence from the entry vestibule to the hallway to the front parlor, and on through the sliding doors to the back parlor; or the sequence in an office building from the entry vestibule to the lobby to the bank of elevators?

12. Interior Features

Are there interior features that help define the character of the building, such as fireplace mantels, stairways and balustrades, arched openings, interior shutters, inglenooks, cornices, ceiling medallions, light fixtures, balconies, doors, windows, hardware, wainscoting, panelling, trim, church pews, courtroom bars, teller cages, waiting room benches?

13. Surface Finishes and Materials

Are there surface finishes and materials that can affect the design, the color or the texture of the interior? Are there materials and finishes or craft practices that contribute to the interior character, such as wooden parquet floors, checkerboard marble floors, pressed metal ceilings, fine hardwoods, grained doors or marbleized surfaces, or polychrome painted surfaces, or stenciling, or wallpaper that is important to the historic character? Are there surface finishes and materials that, because of their plainness, are imparting the essential character of the interior such as hard or bright, shiny wall surfaces of plaster or glass or metal?

14. Exposed Structure

Are there spaces where the exposed structural elements define the interior character such as the exposed posts, beams, and trusses in a church or train shed or factory? Are there rooms with decorative ceiling beams (nonstructural) in bungalows, or exposed vigas in adobe buildings?

This concludes the three-step process of identifying the visual aspects of historic buildings and is

intended as an aid in preserving their character and other distinguishing qualities. It is not intended as a means of understanding the significance of historical properties or districts, nor of the events or people associated with them. That can only be done through other kinds of research and investigation.

Summary and References

Using this three-step approach, it is possible to conduct a walk through and identify all those elements and features that help define the visual character of the building. In most cases, there are a number of aspects about the exterior and interior that are important to the character of an historic building. The visual emphasis of this brief will make it possible to ascertain those things that should be preserved because their loss or alteration would diminish or destroy aspects of the historic character whether on the outside, or on the inside of the building.

Acknowledgements

This Preservation Brief was originally developed as a slide talk/methodology in 1982 to discuss the use of the Secretary of the Interior's Standards for Rehabilitation in relation to preserving historic character; and it was amplified and modified in succeeding years to help guide preservation decision making, initially for maintenance personnel in the National Park Service.
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PRESERVATION BRIEFS

20

Barn with silos and outbuildings. Barnet, Vermont. Photo: Robert McCullough.

The Preservation of Historic Barns

Michael J. Auer

- Historic Barn Types
- Preservation of Historic Barns
- Housing: A Special Concern
- Summary and References
- Reading List

From the days when Thomas Jefferson envisioned the new republic as a nation dependent on citizen farmers for its stability and its freedom, the family farm has been a vital image in the American consciousness. As the main structures of farms, barns evoke a sense of tradition and security, of closeness to the land and community with the people who built them.

Even today the rural barn raising presents a forceful image of community spirit. Just as many farmers built their barns before they built their houses, so too many farm families look to their old barns as links with their past. Old barns, furthermore, are often community landmarks and make the past present. Such buildings embody ethnic traditions and local customs; they reflect changing farming practices and advances in building technology. In the imagination they represent a whole way of life.

Unfortunately, historic barns are threatened by many factors. On farmland near cities, barns are often seen only in decay, as land is removed from active agricultural use. In some regions, barns are dismantled for lumber, their beams sold for reuse in living rooms. Barn raisings have given way to barn razings. Further threats to historic barns and other farm structures are posed by changes in farm technology, involving much larger machines and production facilities, and changes in the overall farm economy, including increasing farm size and declining rural populations.[1]

Yet historic barns can be refitted for continued use in agriculture, often at great savings over the cost of new buildings. This Brief encourages the preservation of historic barns and other agricultural structures by encouraging their maintenance and use as agricultural buildings, and by advancing their sensitive rehabilitation for new uses when their historic use is no longer feasible.

Historic Barn Types

Dutch Barns

The first great barns built in this country were those of the Dutch settlers of the Hudson, Mohawk, and Schoharie valleys in New York State and scattered sections of New Jersey.[2] On the exterior, the most notable feature of the Dutch barn is the broad gable roof, which in early examples (now extremely rare), extended very low to the ground.

A gable roof, center wagon doors with pent roof, stock door at the corners, and horizontal clapboarding are all typical features of the Dutch barn. Photo: S. Matson.

On the narrow end the Dutch barn features center doors for wagons and a door to the stock aisles on one or both of the side ends. A pent roof (or pentice) over the center doors gave some slight protection from the elements. The siding is typically horizontal, the detailing simple. Few openings other than doors and traditional holes for martins puncture the external walls.[3] The appearance is of massiveness and simplicity, with the result that Dutch barns seem larger than they actually are.

To many observers the heavy interior structural system is the most distinctive aspect of the Dutch barn. Mortised, tenoned and pegged beams are arranged in "H"-shaped" units that recall church interiors, with columned aisles alongside a central space (here used for threshing). This interior arrangement, more than any other characteristic, links the Dutch barn with its Old World forebears. The ends of cross beams projecting through the columns are often rounded to form "tongues," a distinctive feature found only in the Dutch barn.

Relatively few Dutch barns survive. Most of these date from the late 18th century. Fewer yet survive in good condition, and almost none unaltered. Yet the remaining examples of this barn type still impress with the functional simplicity of their design and the evident pride the builders took in their work.

Bank Barns

The bank barn gets its name from a simple but clever construction technique: the barn is built into the side of a hill, thus permitting two levels to be entered from the ground. The lower level housed animals, the upper levels served as threshing floor and storage. The hillside entrance gave easy access to wagons bearing wheat or hay. (Fodder could also be dropped through openings in the floor to the stabling floor below.) The general form of the bank barn remained the same whether it was built into a hillside or not. Where a hill was lacking, a "bank" was often created by building up an earthen ramp to the second level.

A gently sloping roadbed shows the "bank," from which bank barns get their name. Photo: NPS files.

Bank barns were ordinarily constructed with their long side, or axis, parallel to the hill, and on the south side of it. This placement gave animals a sunny spot in which to gather during the winter. To take further advantage of the protection its location afforded, the second floor was extended, or cantilevered, over the first. The overhang sheltered animals from inclement weather. The extended forebay thus created is one of the most characteristic features of these barns. In some bank barns, the projecting beams were not large enough to bear the entire weight of the barn above. In these cases, columns or posts were added beneath the overhang for structural support.

In the earliest examples of bank barns narrow-end side walls are frequently stone or brick, with openings for ventilation. (Since "curing" green hay can generate enough heat to start a fire through spontaneous combustion, adequate ventilation in barns is vital.)

Crib Barns

Crib barns form another barn type significant in American agriculture. Found throughout the South and Southeast, crib barns are especially numerous in the Appalachian and Ozark Mountain States of North Carolina, Virginia, Kentucky, Tennessee and Arkansas. Composed simply of one, two, four or sometimes six cribs that served as storage for fodder or pens for cattle or pigs, crib barns may or may not have a hayloft above. Crib barns were typically built of unchinked logs,

although they were sometimes covered with vertical wood siding. Unaltered examples of early crib barns normally have roofs of undressed wood shingles. In time, shingle roofs were usually replaced with tin or asphalt. The rustic appearance of crib barns is one of their most striking features.

The cribs sometimes face a covered gallery or aisle running across the front. In another arrangement, the cribs are separated by a central driveway running through the building. This latter arrangement defines the double crib barn.

In double crib barns the second story hayloft is sometimes cantilevered over the ground floor, resulting in a barn of striking appearance.

Round Barns

George Washington owned a round barn. And in 1826 the Shaker community at Hancock, Massachusetts, built a round barn that attracted considerable publicity.[4] Despite these early examples, however, round barns were not built in numbers until the 1880s, when agricultural colleges and experiment stations taught progressive farming methods based on models of industrial efficiency. From this time until well into the 1920s, round barns appeared on farms throughout the country, flourishing especially in the Midwest.[5]

Circular barns are found throughout the country. This round barn, dated 1910, is in Vermont. It is 80 feet in diameter. Photo: Jay White.

Round barns were promoted for a number of reasons. The circular form has a greater volume-to-surface ratio than the rectangular or square form. For any given size, therefore, a circular building will use fewer materials than other shapes, thus saving on material costs. Such barns also offer greater structural stability than rectangular barns. And because they can be built with self-supporting roofs, their interiors can remain free of structural supporting elements, thereby providing vast storage capabilities. The circular interior layout was also seen as more efficient, since the farmer could work in a continuous direction.

In general, multi-sided barns—frequently of 12 or 16 sides—are earlier than "true round" barns. Earlier examples also tend to be wood sided, while later ones tend to be brick or glazed tile. Interior layouts also underwent an evolution. Early round barns placed cattle stanchions on the first floor, with the full volume of the floor above used for hay storage. In later barns, the central space rose from the ground floor through the entire building. Cattle stanchions arranged around a circular manger occupied the lower level; the circular wagon drive on the level above permitted hay to be unloaded into the central mow as the wagon drove around the perimeter. In the last

stage of round barn development, a center silo was added when silos became regular features on the farm (in the last decades of the nineteenth century). In some cases, the silo projected through the roof.

The claims for the efficiency of the round barn were overstated, and it never became the standard barn, as its proponents had hoped. Nevertheless, a great number were built, and many remain today the most distinctive farm structures in the communities in which they stand.

Prairie Barns

A peak roof projecting above a hayloft opening is one of the most familiar images associated with barns. The feature belongs to the prairie barn, also known as the Western barn. The larger herds associated with agriculture in the West and Southwest required great storage space for hay and feed. Accordingly, prairie barns are on average much larger than the other barns discussed in this brief.[6]Long, sweeping roofs, sometimes coming near the ground, mark the prairie barn; the extended roof created great storage space. (Late in the nineteenth century, the adoption of the gambrel roof enlarged the storage capacity of the haymow even more.)

Affinities of this barn type with the Dutch barn are striking: the long, low roof lines, the door in the gable end, and the internal arrangement of stalls in aisles on either side of the central space are all in the tradition of the Dutch barn.

Others

This 19th century tobacco barn, characterized by its steep gable-on-hip roof, is located in Prince Georges County, Maryland. Photo: Jack E. Boucher, NPS.

The barn types discussed here are only some of the barns that have figured in the history of American agriculture. As with Dutch barns, some reflect the traditions of the people who built them: Finnish log barns in Idaho, Czech and German-Russian house barns in South Dakota, and "threebay" English barns in the northeast. Some, like the New England connected barn, stem from regional or local building traditions. Others reflect the availability of local building materials: lava rock (basalt) in south-central Idaho, logs in the southeast, adobe in California and the southwest. Others are best characterized by the specialized uses to which they were put: dairy barns in the upper midwest, tobacco barns in the east and southeast, hop-drying barns in the northwest, and rice barns in South Carolina. Other historic barns were built to patterns developed and popularized by land-grant universities, or sold by Sears, Roebuck and Company and other mail-order firms. And others fit no category at all: these barns attest to the owner's

tastes, wealth, or unorthodox ideas about agriculture. All of these barns are also part of the heritage of historic barns found throughout the country.

Preservation of Historic Barns

Understanding Barns and Their History

Historic barns are preserved for a number of reasons. Some are so well built that they remain useful even after a hundred years or more. Many others are intimately connected with the families who built them and the surrounding communities. Others reflect developments in agricultural science or regional building types.

Before restoring a historic barn or rehabilitating it for a new use, an owner should study the building thoroughly. This process involves finding out when the barn was built, who built it, and why. It means understanding how the building was changed through the years. It means assessing the condition of the barn, and understanding its components. This process has as its end an appreciation of the building's historic character, that is, the sense of time and place associated with it. It is this physical presence of the past that gives historic buildings their significance.

To assess the historic character of a barn, an owner should study old photographs, family records, deeds, insurance papers, and other documents that might reveal the building's appearance and history. Neighbors and former owners are often important sources of information. Local libraries, historical societies and preservation organizations are additional sources of help.

As part of this overall evaluation, the following elements should be assessed for their contributions to the property. They are the principal tangible aspects of a barn's historic character, and should be respected in any work done on it.

A barn is integral with its setting—orchards, ponds, fencing, streams, country roads, windmills, and silos. Photo: Jack E. Boucher, HABS Collection, NPS.

Setting

Setting is one of the primary factors contributing to the historic character of a barn. Farmers built barns in order to help them work the land; barns belong on farms, where they can be seen in relation to the surrounding fields and other structures in the farm complex. A barn crowded by

suburbs is not a barn in the same sense as is a barn clustered with other farm buildings, or standing alone against a backdrop of cornfields. Hence, the preservation of barns should not be divorced from the preservation of the setting: farms and farmland, ranches and range, orchards, ponds, fields, streams and country roads.

Other important elements of setting include fences, stone walls, roads, paths, barnyards, corrals, and ancillary structures such as windmills and silos. (Silos, indeed, have become so closely associated with barns as nearly to have lost their "separate" identities.) These features help place the building in the larger agricultural context, relating it to its purpose in the overall rural setting.

Form

The shape of barns, as with other buildings, is of great importance in conveying their character. (For round barns, the shape is the defining feature of the type.) Often the form of a barn is visible from a distance. Often, too, more than one side can be seen at the same time, and from several different approaches. As a general rule, the rear and sides of a barn are not as differentiated from the front, or as subordinated to it, as in other buildings.

This enormous late 19th century barn in Shelburne, Vermont, displays a complexity and sophistication of roofing elements. See interior, below. Photo: NPS files.

The roof is among the most important elements of building form. Barns are no exception. The gable roof on Dutch and Prairie barns, the cone-shaped, dome-shaped, eight or twelve-sided roof of round barns, and the gambrel roof of the "typical" barn are among the most prominent features on these buildings. A barn roof can often be seen from a distance, and for this reason must be considered a major feature.

Materials

Among the major impressions given by well-maintained historic barns are those of strength, solidity and permanence. These impressions largely result from the durability and ruggedness of the materials used in them. Weathered wood siding, irregularly shaped stones, or roughhewn logs on the exterior; dressed beams, posts scarred by years of use, and plank flooring on the interior all contribute to the special character of barns.

Openings

Unlike historic residential, industrial and commercial buildings, barns generally have few openings for windows and doors. Yet the openings found in barns are important both to their

functioning and to their appearance. Typically, large wagon doorways and openings to the hayloft are among the most striking features on barns. Not as prominent as these large openings, but important from a functional perspective, are the ventilator slits found on many barns. With important exceptions (dairy barns, for example), windows are few, and are normally small. The relative absence of openings for windows and doors adds to the overall impression of massiveness and solidity conveyed by many historic barns, and is one of the reasons why they often appear to be larger than they are.

The interior of the barn in Shelburne, Vermont, is a magnificent space that included an overhead hay loft with tracks that allowed workers to drop hay to the floor below. Photo: NPS files.

Interior Spaces

The impression received upon stepping into many historic barns is that of space. Not infrequently, the entire building appears as a single large space. To enter these buildings is sometimes to experience the entire expanse of the building at once. Even when haylofts and animal stalls "consume" part of the building, they often do not keep the full expanse of the interior from being seen.

In large barns, this can be an imposing sight. More commonly, the barn is a combination of confined spaces on the lower floor and a large open space above; in this case, the contrast between the confined and open spaces is also striking. The openness of the interior, furthermore, often contrasts with the "blankness" typical of many barn exteriors, with their relatively few openings.

Structural Framework

The exposed structural framework is a major component of the character of most historic barns. Typically, barns were built for strictly utilitarian purposes. Accordingly, barn builders made no effort to conceal the structural system. Yet for that very reason, barns achieve an authenticity that accounts for much of their appeal.

In some barns, the load-bearing members are of enormous dimensions, and the complex system of beams, braces, posts, rafters and other elements of the revealed framework create an imposing sight. Yet even in small barns, the structural system can be an important feature, helping to determine the historic character of the building.

Hex signs are among the wide range of decorative elements found on American barns. Photo: NPS files.

Decorative Features

Historic barns, like modern ones, are structures built for use. Nevertheless, decorative elements are not lacking on barns. Foremost among these is color (red being most common). Dutch barns traditionally sported distinctively shaped martin holes in the upper reaches of the building. Traditional hex signs on Pennsylvania barns are so well known as to have entered the mainstream of popular culture and taken on a life of their own. Decorative paint schemes, including contrasting colors to "pick out" cross members of the external framework, are common (these most frequently take the form of diamonds or "X's" on the main doors). Sign painters often took advantage of the size and visibility of barns in an age before billboards. "Mail Pouch Tobacco" signs were nearly as numerous in the first quarter of the 20th century as patent medicine ads were in the last quarter of the 19th. Another decorative motif on historic barns is the arrangement of spacings between bricks to form decorative patterns (as well as to ventilate the barn).

In addition to these elements, arched window hoods, patterned slate roofs, fanciful cupolas, weathervanes, lightning rods and ornamented metal ventilator hoods can be found on historic barns. Finally, individual farmers and barn builders sometimes added personal touches, as when they carved or painted their names on anchor beams, or painted their names and the date over the entrance.

The elements discussed here are major components of historic barns. Yet no list can convey the full historic character of an individual building. It is very important, therefore, to study each structure carefully before undertaking any project to restore it or to adapt it to new uses.

Maintenance

This well-maintained late 18th century barn is located in Worcester, Pennsylvania. Note the use of indigenous stone in the structure and surrounding fencing. Photo: Robert McCullough.

If a building is to be kept in good repair, periodic maintenance is essential. Barns should be routinely inspected for signs of damage and decay, and problems corrected as soon as possible. Water is the single greatest cause of building materials deterioration. The repair of roof leaks is therefore of foremost importance. Broken or missing panes of glass in windows or cupolas are also sources of moisture penetration, and should be replaced, as should broken ventilation louvers. Gutters and downspouts should be cleaned once or twice a year. Proper drainage and grading should be ensured, particularly in low spots around the foundation where water can collect.

Moisture is one major threat to historic buildings. Insects, especially termites, carpenter ants and powder post beetles, are another. Regular examinations for infestations are essential.

Additional periodic maintenance measures include repair or replacement of loose or missing clapboards, and inspections of foundations for cracks and settlements. Vegetation growing on the barn should be removed, and shrubs or trees near it should be cleared if they obstruct access, or, more serious, if roots and other growths threaten the foundation. Soil and manure buildups against the foundation should be removed. Such buildups hold water and snow against wooden elements, and promote rot. They also promote insect infestations. Door hardware should be checked for proper fitting and lubricated yearly. Lightning rods should be kept in proper working order, or added, if missing.

Repair

Many historic barns require more serious repairs than those normally classed as "routine maintenance". Damaged or deteriorated features should be repaired rather than replaced wherever possible. If replacement is necessary, the new material should match the historic material in design, color, texture, and other visual qualities and, where possible, material. The design of replacements for missing features (for example, cupolas and dormers) should be based on historic, physical, or pictorial evidence.

This horse barn, ca. 1875, is in Stowe, Vermont. Its cupola has been removed for repair. Photo: NPS files.

Many barn owners have substantial experience in the care of farm structures. Where expertise is lacking, it will be necessary to consult structural engineers, masons, carpenters, and architects, as appropriate. In addition, for many repairs, a knowledge of historic building techniques may be necessary.

Structural Repairs

Ensuring the structural soundness of a historic barn is vital both to its continued usefulness and to the safety of its occupants. The following signs of structural settlements may require the services of a structural engineer to evaluate: major cracks in masonry walls, visible bowing, leaning and misalignment of walls, sagging windows and doors, separation of cladding from structural frames, trusses pulling away from seating points at support walls, sagging joists and rafters, and noticeable dips in the roof between rafters.

This cupola will be repaired and returned to the horse barn roof (see photo, above). Photo: NPS files.

To correct these problems, masonry foundations may have to be reset or partially rebuilt. Sills and plates may need to be repaired or replaced. Walls may have to be straightened and tied into the structural system more securely. Individual structural members may need bracing or splicing.

Roofing

Moisture can damage historic materials severely, and, in extreme cases, jeopardize the structural integrity of a building. Every effort must be made to secure a weathertight roof. This may require merely patching a few missing shingles on a roof that is otherwise sound. In more severe cases, it may require repairing or replacing failing rafters and damaged sheathing. Such extreme intervention, however, is not usual. More typical is the need to furnish "a new roof," that is, to replace the wooden shingles, asphalt shingles, slate shingles or metal covering the roof. Replacing one type of roofing with another can produce a drastic change in the appearance of historic buildings. Great care should be taken, therefore, to assess the contribution of the roof to the appearance and character of the barn before replacing one type of roofing material with another. While some substitute materials (such as synthetic slate shingles) can be considered, the highest priority should be to replace in-kind, and to match the visual qualities of the historic roof. Gutters and downspouts should be replaced if damaged or missing. Finally, dormers, cupolas, metal ventilators and other rooftop "ornaments" provide needed ventilation, and should be repaired if necessary.

Exterior

In addition to the roof and the foundation, other exterior elements may need repair, including siding, brick and stonework, dormers and cupolas, windows and doors. Shutters may be falling off, doors may need to be rehung, and missing louvers replaced. The exterior may need repainting. (Unpainted brick or stone barns, however, should never be painted.) In the case of masonry barns, repointing may be necessary. If so, mortar that is compatible in appearance and composition with the historic mortar must be used. Using mortar high in portland cement can damage historic brick or stone. Masonry cleaning should be undertaken only when necessary to halt deterioration or to remove heavy dirt, and using the gentlest means possible. Sandblasting and other physical or chemical treatments that damage historic materials should not be used. Likewise, power washing under high pressure can also damage building material.

Interior

Typical interior repairs may include removing and replacing rotten floorboards, and repair or replacement of partitions, storage bins, gutters and stalls. Concrete floors may be cracked and in need of repair. Wiring and plumbing may need major overhaul.

Rehabilitation

This historic barn was successfully converted into a furniture factory. Photo: NPS files.

Some barns have served the same uses for generations, and need only periodic repairs and routine maintenance. Others have become obsolete and need extensive updating for modern farming methods. (To house livestock, for example, a barn may need new feeding, watering, waste removal, electrical, plumbing and ventilation systems.) Similarly, barns that can no longer be used for agriculture at all normally require changes to adapt them for commercial, office, or residential use. In such cases barns need more extensive work than the maintenance and repair treatments outlined above. However, when rehabilitating a historic barn for a new farming operation or a new use entirely, care must be taken to preserve its historic character while making needed changes.

A successful rehabilitation project is best guaranteed when a work plan is drawn up by someone familiar with the evaluation of historic structures, and when it is carried out by contractors and workmen experienced with the building type and committed to the goal of retaining the historic character of the property. Help in formulating rehabilitation plans and in locating experienced professionals is normally available from the State Historic Preservation Office and local preservation groups.

The following approaches should be observed when carrying out rehabilitation projects on historic barns:

1. **Preserve the historic setting of the barn as much as possible**. Modern farming practices do not require the great number of outbuildings, lots, fences, hedges, walls and other elements typical of historic farms. Yet such features, together with fields, woods, ponds, and other aspects of the farm setting can be important to the character of historic barns. The functional relationship between the barn and silo is particularly significant and should also be maintained.
2. **Repair and repaint historic siding rather than cover barns with artificial siding**. Siding applied over the entire surface of a building can give it an entirely different appearance, obscure craft details, and mask ongoing deterioration of historic materials

underneath. The resurfacing of historic farm buildings with any new material that does not duplicate the historic material is never a recommended treatment.

3. **Repair rather than replace historic windows whenever possible, and avoid "blocking them down" or covering them up**. Avoid the insertion of numerous new window openings. They can give a building a domestic appearance, radically altering a barn's character. However, if additional light is needed, add new windows carefully, respecting the size and scale of existing window openings.
4. **Avoid changing the size of door openings whenever possible**. Increasing the height of door openings to accommodate new farm machinery can dramatically alter the historic character of a barn. If larger doors are needed, minimize the visual change. Use new track-hung doors rather than oversized rolled steel doors, which give an industrial appearance incompatible with most historic barns. If the barn has wood siding, the new doors should match it. If historic doors are no longer needed, fix them shut instead of removing them and filling in the openings.
5. **Consider a new exterior addition only if it is essential to the continued use of a historic barn**. A new addition can damage or destroy historic features and materials and alter the overall form of the historic building. If an addition is required, it should be built in a way that minimizes damage to external walls and internal plan. It should also be compatible with the historic barn, but sufficiently differentiated from it so that the new work is not confused with what is genuinely part of the past.
6. **Retain interior spaces and features as much as possible**. The internal volume of a barn is often a major character-defining feature, and the insertion of new floors, partitions, and structures within the barn can drastically impair the overall character of the space. Similarly, interior features should also be retained to the extent possible.
7. **Retain as much of the historic internal structural system as possible**. Even in cases where it is impractical to keep all of the exposed structural system, it may be possible to keep sufficiently extensive portions of it to convey a strong sense of the interior character.

Wholesale replacement of the historic structural system with a different system should be avoided.

Housing: A Special Concern

The conversion of barns to housing is not new, but has become increasingly popular in recent years. Yet the changes involved in converting most barns to housing are so great that such conversions rarely preserve the historic character of the resource. Ordinarily, numerous windows are inserted, walls are heavily insulated and refinished, the interior volume is greatly reduced, chimneys and other fixtures normally lacking in barns are added, and site changes, such as close-in parking and residential landscaping are made, giving the building a greatly altered site. Many other barns are "converted" to houses by dismantling them, discarding the exterior, and reusing the internal structural system in a new building. The beams are saved, but the barn is lost.

In cases where the conversion from barns to houses has been successful, the positive outcome results in large measure from the careful choice of the barn: A modest-sized barn with a sufficient number of existing residential-scale windows, in which nearly the whole internal volume can be used as is, without building numerous new partitions or extending a new floor across the open space (haylofts in such cases serving as loft-space for "second story" bedrooms).

Summary and References

Historic barns form a vital part of our Nation's heritage. Not every historic barn can be saved from encroaching development, or easily brought back into productive use. Yet thousands of such structures can be repaired or rehabilitated for continued agricultural use or for new functions without destroying the very qualities that make them worth saving. By carefully examining the historic significance of each structure, owners of historic barns can draw up plans that preserve and reuse these historic structures while maintaining their historic character.

NOTES

1. Nore V. Winter, "Design on the Farm: A Rural Preservation Forum," Unpublished proceedings from a Conference sponsored by the National Trust for Historic Preservation, Denver, Colorado, January 13-14, 1986.Descriptions of the primary barn types featured in this section are heavily indebted to Eric Arthur and Dudley Witney, *The Barn: A Vanishing Landmark in North America*. Greenwich, CT: New York Graphic Society, Ltd., 1972.

2. John Fitchen, *The New World Dutch Barn: A Study of Its Characteristics, Its Structural System, and Its Probable Erectional Procedures*. Syracuse, NY: Syracuse University Press, 1968, p 136.
3. Washington's "round" barn, actually a 16-sided barn, is shown in Lowell J. Soike, *Without Right Angles: The Round Barns of Iowa*. Des Moines: Iowa State Historical Department, 1983. Round, octagonal and other polygonal barns are normally all classed as "round barns." When it is necessary to be more precise, the term "true round" is used to distinguish round barns from hexagonal, octagonal, or other polygonal barns. The Shaker Round Barn is a true round barn. Gutted by fire in 1864, the barn was rebuilt shortly thereafter. See Polly Matherly and John D. McDermott, Hancock Shaker Village National Historic Landmark study, History Division, National Park Service, Washington, D.C.
4. In addition to the sources mentioned above, the following studies were important sources for this section: Mark L. Peckham, "Central Plan Dairy Barns of New York Thematic Resources," Albany: New York State Division for Historic Preservation, 1984; and James E. Jacobsen and Cheryl Peterson, "Iowa Round Barns: The Sixty Year Experiment Thematic Resources," Des Moines: Iowa State Historical Department, 1986. These thematic studies document barns listed in the National Register of Historic Places.
5. Charles Klamkin, *Barns: Their History, Preservation, and Restoration*. New York: Hawthorn, 1973, p 57.

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Beatty House

Bear Creek Stables

SUMMARY REPORT: BEATTY PROPERTY AND BEAR CREEK STABLES

Prepared for the Midpeninsula Regional Open Space District
by
Knapp & VerPlanck Preservation Architects
October 13, 2010

I. Introduction

This Historical Resource Summary Report was prepared by Knapp & VerPlanck Preservation Architects to summarize the Historical Resource Assessments of the Beatty Property and the Bear Creek Stables complex. These two assessments (see Appendix Items A and B) were prepared by Knapp & VerPlanck Preservation Architects (KVP) for the Midpeninsula Regional Open Space District (MROSD). The assessments, which are recorded on California Department of Parks and Recreation (DPR) 523 forms, evaluate the potential historical and architectural significance of these two properties, both of which are located in unincorporated Santa Clara County, near Los Gatos, California.

Beatty Property

The Beatty Property is located at 17820 Alma Bridge Road in unincorporated Santa Clara County (Assessor Parcel Nos.: 558-35-001, 558-36-011, and 558-36-012). The Beatty Property, which was constructed ca. 1866 by a pioneer Civil War veteran named Edward Ditto, contains a ca. 1866 vernacular plank-frame dwelling, a ca. 1915 garage/wood room, and a ca. 1920 barn/stable. The report completed by KVP concludes that the property is eligible for listing in the California Register of Historical Resources (California Register) as a very early and well-preserved example of a redwood, plank-frame dwelling, once common as a form of vernacular housing in the Santa Cruz Mountains during the nineteenth century. Although constructed later than the house, the two historic outbuildings contribute in part to the property's setting. The report concludes that the property is eligible under California Register Criteria 1 (Events) and 3 (Design/Construction) with a period of significance of 1866-1952. The period of significance begins with the likely date of construction of the Beatty House and concludes with the flooding of Lexington Reservoir, which altered the property boundaries and relationship of the property with the long since-vanished community of Alma.

Bear Creek Stables Complex

The Bear Creek Stables complex is located within the Bear Creek Redwoods Open Space Preserve at 19100 Bear Creek Road in unincorporated Santa Clara County (Assessor Parcel No.: 544-32-001). The Bear Creek Stables complex was initially constructed 1916-17 as the core of Dr. Harry L. Tevis' Alma Stock Farm. The stables were constructed in 1916, the original portion of the foreman's house in 1917, and the office/cabin between 1917 and 1933. The assessment concludes that the Bear Creek Stables complex is no longer a historical resource due to the many changes that have taken place over time, especially after the end of the period of significance, which is 1916-1950. The period of significance begins with the construction of the stables by Tevis' contractor, Harley Hoerler (with design assistance from San Francisco architect George Kelham) and ends with the death of Tevis' resident ranch foreman, Reginald Theobold, who lived and worked at the complex from ca. 1920 until his death in 1950.

II. Methodology

KVP contracted with MROSD to prepare historical assessments for the Beatty Property and the Bear Creek Stables complex – in mid-August 2010. Upon execution of the contract, KVP principal Christopher VerPlanck and architect Ruchira Nageswaran surveyed both sites on August 17, 2010. We documented the buildings and surrounding sites using

digital photography and field notes. We took rough measurements and made sketch plans of the buildings, noting their construction materials and methods used, overall dimensions, and character-defining features. Our aims were twofold; we wanted to gather enough information to complete the architectural description sections of the assessments, as well as obtaining useful data on the construction methods and materials to assist us with dating and attributing these largely undocumented buildings. Mr. VerPlanck made a follow-up visit to the Bear Creek Stables site on September 9.

With the field survey component complete Christopher VerPlanck began a series of research trips to various repositories to gather whatever information could be gleaned about these two properties. These research trips, which took place throughout the month of August and early September, involved researching the properties in the following repositories: Santa Clara County Assessor's Office (recent sales activity), Santa Clara County Recorder's Office (deeds and official recorded subdivision maps), Santa Clara County Surveyor's Office (surveyors' maps, unrecorded subdivision maps, and county road maps), Santa Clara County Archives (recorded subdivision maps), California Room at the San José-San José State University/Dr. Martin Luther King, Jr. Library (Santa Clara County-City directories, USGS maps, aerial photographs, newspaper clipping files, marriage records, Santa Clara County atlases, and histories of Santa Clara County and Los Gatos), Los Gatos Public Library (maps, local histories, newspaper clippings files), the Western Society of Jesus Archives at Santa Clara University (maps, historic photographs, and other data pertaining to Alma College/Tevis Estate), the Bancroft Library at the University of California, Berkeley (diaries and correspondence of Dr. Henry L. Tevis), and the collections of the Midpeninsula Regional Open Space District (family records and photographs pertaining to the Beatty Property).

In addition to these resources, Mr. VerPlanck obtained research conducted by MROSD staff, including a records request completed by the Northwest Information Center at Sonoma State University, as well as copies of reports completed for both properties in the 1980s and 1990s prior to their acquisition by MROSD.

In addition to these brick-and-mortar repositories, Mr. VerPlanck consulted several online resources, including digitized historical newspapers such as the *Daily Alta California* and the *San Francisco Cal,* both available through the California Digital Newspaper Collection at UC Riverside http://cdnc.ucr.edu/newsucr and the historical *San Francisco Chronicle* available through the San Francisco Public Library www.sfpl.org. We also accessed United States Census data through www.ancestry.com and California death records through the California Office of Vital Records and Statistics in Sacramento: http://death-records.net/california/death-records.htm.

KVP principal Christopher VerPlanck has an extensive collection of books, articles, and personal research related to local Bay Area history and Western ranch buildings. These sources were used extensively in the preparation of both assessments.

Upon completion of the research, Mr. VerPlanck began writing both assessments. At the request of MROSD staff, we recorded each property on standard California Department of Parks and Recreation 523 forms and continuation sheets, with a separate summary/introductory report (this document).

III. Current Historic Status

Based on information obtained from the Northwest Information Center at Sonoma State University, both the Beatty Property and Bear Creek Stables complex have been identified as being part of properties identified as containing potential historical resources.

Beatty Property

The Beatty Property was evaluated in May 1986 in a report prepared by Archeological Resource Management. This report was authored by Robert Cartier and Glory Anne Laffey and titled: *Cultural Resource Evaluation of Three Parcels at Lexington Reservoir in the County of Santa Clara.* It was prepared as part of a proposed acquisition of the property (as well as two others) by the Santa Clara County Parks Department for a potential park on the shores of Lexington Reservoir. The report was commissioned to determine whether there were any significant cultural resources on the sites under consideration by the department. The evaluation consisted of a field visit and surface reconnaissance, as well as limited archival and secondary research. The report noted two potential cultural resources, including a prehistoric midden and the Beatty house itself, which was described thusly: "This house was part of the extinct community of Alma and is an important remnant of this historic part of the past."[1] The report concluded with the finding that the Beatty Property contains "potentially significant cultural materials," and recommended "intensive historic archival and field study with possible recommendations for preservation."[2] This report was completed before the development of California Historical Resource Status Codes, so the property does not yet have official historic status under current methodology used in the California Historical Resources Inventory System.

Bear Creek Stables Complex

The former Alma College/ Tevis Estate has been evaluated several times since the Noviate of Los Gatos sold the property to developers in 1989. In February 1995, the entire site was evaluated as part of an environmental impact report prepared for the proposed Los Gatos Country Club project. The report, titled *Historical and Architectural Evaluation for the Los Gatos Country Club in the County of Santa Clara,* was prepared by Glory Anne Laffey and Robert G. Detlefs of Archives and Architecture. The report concluded that portions of the property contained historical resources, in particular the remnants of the Alma College/Tevis Estate but that other portions of the site, including the Bear Creek Stables complex, were ineligible for listing in the California Register under any of the criteria: "Never architecturally significant, the buildings have been neglected and altered over the years. It is concluded that the stable complex is not architecturally or historical (sic) significant."[3]

[1] Archeological Resource Management, *Cultural Resource Evaluation of Three Parcels at Lexington Reservoir in the County of Santa Clara* (San Jose: 1986), 10.
[2] Ibid., 7.
[3] Archives and Architecture, *Historical and Architectural Evaluation for the Los Gatos Country Club in the County of Santa Clara* (San Jose: 1995), 17.

IV. Description

Both the Beatty Property and the Bear Creek Stables complex are thoroughly described in the accompanying DPR 523 A (Primary) forms attached within Appendix Items A and B of this report. Photographs of each property can be found on the continuation sheets.

V. Historic Context

The development and subsequent evolution of the Beatty Property and the Bear Creek Stables complex are discussed in depth in the accompanying DPR 523 B (Building, Structure, & Object) forms attached within Appendix Items A and B of this report.

VI. Evaluation of Historic Status

A. California Register of Historical Resources

The two properties were evaluated to determine if they were individually eligible for listing in the California Register of Historical Resources. The California Register is an authoritative guide to significant architectural, archaeological, and historical resources in the State of California. Resources can be listed in the California Register through a number of methods. State Historical Landmarks and National Register-eligible properties (both listed and formal determinations of eligibility) are automatically listed. Properties can also be nominated to the California Register by local governments, non-profit organizations, or citizens. This includes properties identified in historical resource surveys with Status Codes of 1 to 5 and resources designated as local landmarks or listed by city or county ordinance. The evaluation criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places (National Register). In order to be eligible for listing in the California Register a property must be demonstrated to be significant under one or more of the following criteria:

> **Criterion 1 (Event):** Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
>
> **Criterion 2 (Person):** Resources that are associated with the lives of persons important to local, California, or national history.
>
> **Criterion 3 (Design/Construction):** Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.
>
> **Criterion 4 (Information Potential):** Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California or the nation.

The following section examines the eligibility of each property for listing in the California Register.

Beatty Property

The Beatty Property appears eligible for listing in the California Register under Criterion 1 (events) and Criterion 3 (design/construction). The property appears eligible under Criterion 1 as a property associated with the broad patterns of local or regional history as a remnant of the pioneer community of Alma. Now submerged beneath Lexington Reservoir, Alma was the most important community between Los Gatos and Felton from the opening of the Southern Pacific Coast Railroad in 1878 until the completion of Highway 17 in 1938. The property embodies the transition of the Alma Valley from an isolated backwater region of hardscrabble pioneers, squatters, and lumberjacks into a more heavily settled and prosperous horticultural region dominated by prune orchards and vineyards. Although none of the owners of the property were prominent individuals, they all played a part in the development of the Alma Valley before it was submerged beneath the Lexington Reservoir between 1950 and 1952.

The Beatty Property appears eligible for listing in the California Register under Criterion 3 (design/construction) as a property that embodies the characteristics of a type, period, region, and method of construction. It is a rare and quite intact example of a very old mid-19th-century rural dwelling in the Santa Cruz Mountains. With its simple redwood plank-frame construction, lack of a permanent foundation, and simple design devoid of ornament, the Beatty House embodies all the characteristics of a typical Western pioneer vernacular dwelling erected in 1860s. Built of redwood planks without a stud frame, the plank-frame (or "slab-sided" technique as it was called at the time), could be constructed cheaply and easily without advanced skills or labor. Once common in the Santa Cruz Mountains, few examples of the type remain today.

Bear Creek Stables Complex

If it retained integrity, the Bear Creek Stables complex would appear eligible for listing in the California Register under Criterion 3 (design/construction) as a good example of a complex of elaborate rural ranch buildings constructed for Dr. Henry "Harry" Tevis, son of capitalist, banker, mine owner, and land baron, Lloyd Tevis. Built in 1916-17 of redwood and designed in a utilitarian mode with Craftsman detailing, two of the three buildings (the stables and the foreman's house) display some characteristics of their original design, including wood-frame construction with board and batten cladding, exposed purlin and rafter ends and semi-decorative knee braces; as well as the functional features associated with buildings constructed to board and care for horses. The stables in particular demonstrate features of its building type, especially the western-most section of the complex which retains its original rectangular massing, shallow-pitched gable roof, exposed roof framing and knee bracing, and interior plan consisting of a central longitudinal aisle flanked to either side by individual stalls. The stalls and stall doors are reinforced against damage inflicted by horses biting and kicking and the building is ventilated through high windows located along the long walls as well as by vents located on the short walls.

However, the stables and the two dwellings have undergone extensive alterations after the death of Alma Ranch foreman Reginald Theobold, who oversaw the stables complex for a quarter-century, from ca. 1920 as a young man until his death in 1950. The stables complex has acquired a series of additions over their lifetime, including several

constructed during the period of significance (1916-1950) but after Theobold's death in 1950, the building was neglected and later underwent several alterations that altered its character, including the construction of a two-level hay loft in 1968 and the substitution of corrugated steel roofing for the original wood shakes. Additionally, the complex is in very poor condition and has lost many of its windows and some of its original detailing to deterioration.

The foreman's house was originally constructed as a pair of cabins ca. 1917 and they were combined into one dwelling ca. 1945. After 1950 the dwelling was extensively remodeled, with new aluminum picture windows and interior detailing.

The office/cabin was constructed before 1933 and has no architectural or historical significance.

VII. Conclusion

The two properties in the Alma Valley that are the subject of this report are two very different properties. Although they share superficial similarities by virtue of being rural property types constructed of traditional redwood board-and-batten, each represents a different period of construction and very different historical contexts.

Beatty Property

Built of relatively primitive plank-frame, or "slab-sided," redwood construction and dating back to the immediate post-Civil War era, the Beatty Property likely incorporates one of the oldest remaining residential properties in the Alma Valley. Commonly abandoned and/or replaced by stud-frame structures with modern amenities, vernacular residential building types like the Beatty House are now light on the ground. Although the two other historic-period structures on the site date to the early twentieth century, they are of compatible materials and embody many of the characteristics of the humble rural homesteads that were once common in the Santa Clara Valley before most made way for rapid suburban expansion after the Second World War. The Alma Valley is a rare semi-rural backwater in the region and the Beatty Property is an even rarer example of the subsistence farms that once characterized the valley. As a rural ranching property embodying both the early historical evolution of the Alma Valley and as an intact example of an intact plank-frame redwood structure, the Beatty Property appears eligible for listing in the California Register under Criteria 1 and 3.

Bear Creek Stables Complex

The Bear Creek Stables complex represents a very different type and period of construction, as well as a vastly different historical context. Although two of the buildings (foreman's house and stables) are clad in redwood, board-and-batten materials, they are conventional stud-frame structures constructed during the first quarter of the twentieth century. In contrast to the Beatty Property, which was incrementally developed by ranchers, the Bear Creek Stables complex was built during the First World War by one of the Bay Area's wealthiest individuals – Dr. Harry L. Tevis. Constructed to board his prized Tennessee walking horses, the stables complex served a peripheral function on Tevis' Alma Ranch. Following Tevis' death in 1931, the stables were managed by his trusted foreman Reginald Theobold. After Theobold's death, the complex has been neglected and unsympathetically altered to suit the needs of several concessionaires who have

leased the complex from Alma College and subsequent property owners. In summary, the complex does not appear eligible for listing in the California Register due to extensive alterations that detract from the property's historic appearance.

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Historical San Francisco Chronicle, San Francisco Public Library, San Francisco, CA: www.sfpl.org

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C. Repositories

Bancroft Library, University of California – Berkeley: Dr. Henry L. Tevis Papers.

California Room, San José-San José State University/Dr. Martin Luther King, Jr. Library, San José, CA: Santa Clara County directories, USGS maps, aerial photographs, newspaper clipping files, marriage records, Santa Clara County atlases, and Santa Clara County and Los Gatos histories.

Los Gatos Public Library, Los Gatos, CA: Maps, clippings files, death records, secondary sources on Los Gatos and Santa Clara County.

Santa Clara County Archives, San José, CA: Recorded county maps.

Santa Clara County Recorder's Office, San José, CA: Legal descriptions of each parcel, deeds, recorded subdivision maps.

Santa Clara County Surveyor's Office, San José, CA: Official county maps.

Western Archives of the Society of Jesus, Santa Clara University, Santa Clara, CA: Construction drawings, maps, and historic photographs of the Tevis Estate/Alma College.

Appendix

Appendix Item A: Historical Resource Assessment: Beatty Property
Appendix Item B: Historical Resource Assessment: Bear Creek Stables Complex

ATTACHMENT C

PRELIMINARY FINDINGS OF THE VISUAL ASSESSMENT

FOR THE

REDWOOD CABIN, LA HONDA CREEK

Prepared for The Midpeninsula Regional Open Space District

Midpeninsula Regional Open Space District

Prepared by

BIGGS CARDOSA ASSOCIATES INC
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May 18, 2014

BCA JOB # 2015105

PROJECT BACKGROUND:

The Redwood Cabin is within a forested area of the La Honda Creek Preserve which is operated by the Midpeninsula Regional Open Space District. The cabin is understood to have been built in the 1920's using traditional techniques. The building appears to have been in use until several decades ago but has been closed up for at least several years.

We understand that the District is considering options for maintaining this historic structure, including the following three options:

1. Restore the building for use by the public.

2. Complete some repairs and upgrades to reduce further deterioration and to allow the building to be used for temporary low density storage.

3. Complete limited work to mothball the building.

This report consists of a brief description of the nature and condition of the structure of the building. These descriptions are based on a limited visual observation that was carried out earlier this year. Drawings based on field measurements taken during that site visit are included in the appendix as well as some annotated photographs.

No existing documents have been reviewed as part of this study. Other improvements in this relatively remote location, including a firepit, drainage cleanouts and an electrical service, were not examined.

EXISTING STRUCTURE DESCRIPTION

The log cabin includes a vertical pole substructure, wood framed first floor, log exterior and interior walls, heavy timber roof trusses, timber roof framing and a continuous deck around the perimeter of the structure.

Non-structural elements that were present were not examined in detail, including the following:

1. Large stone fireplace at the center of the building.

2. Electrical service and wiring

3. Plumbing and fixtures.

Substructure

The existing substructure consists of a series of vertical poles or 12 –inches to 16-inches in diameter partially embedded below grade. The depth of embedment is not known. The poles are typically located directly beneath beams and walls. Due to the sloping ground beneath the building, the posts vary in height above ground from around 1-feet to around 10-feet.

Some portions of the perimeter walls and existing deck framing are supported by sawn lumber posts of varying sizes up to 6x12. These posts are typically supported by 18-inch square concrete footings. It is not clear if these posts were part of the original construction or have been installed to replace original posts.

Floor Framing

The first floor framing includes a series of sawn lumber beams spanning in the North-South direction and sawn lumber joists directly above the beams spanning in an East-West direction. The beams are typically supported on notches in the substructure poles. The joists bear directly on top of the beams and there is typically no blocking or bracing between joists.

The floor consists of 1x8 diagonal sheathing bearing directly on the joists. Redwood or similar tongue-and-grooved flooring was installed over the sheathing. A black building paper, roofing felt or similar layer between the sheathing and flooring was visible at gaps between sheathing boards.

Nailed connections were typically not observed between the floor framing components. There are some nailed steel straps and clips that appear to have been added in recent decades, but the installation of these straps and clips is not consistent.

Log Interior and Exterior Walls

The four perimeter walls are typically horizontal stacked logs of between 6-inch and 12-inch diameter. At corners, each log is notched to provide interlock with the log above. There are three interior log walls of similar construction. The gaps between logs at exterior walls appear to have been caulked with a natural fibrous material.

At door and window openings, the horizontal logs terminate at the opening framing. The logs are stabilized by vertical dowels of around 1.5-inch diameter that appear to have been installed into vertical holes in the logs. It appears that once the second log was installed, a vertical hole was drilled through the second log and partially into the first log below. The dowel was then driven into the hole, securing the second log. This was repeated up the height of each wall opening. The dowels are typically not visible but can be clearly observed at several locations.

The two exterior walls at the ends of the building and the three interior walls bear directly on the vertical substructure poles. The bottom log is partially below the floor level, forming a break in the floor diaphragm. The connection of the floor framing to these logs was not observed.

The two exterior walls at the sides of building are supported by a series of hidden sawn lumber beams. There appear to be three pairs of 3x8 beams stacked on top of each other along the base of these two walls. The beams are supported directly by 6x12 sawn lumber posts. The pairs of sawn beams are clad with split logs and are not readily visible. At the end walls, there does not appear to be any interlock or other mechanical connection with these beams. The ends of the beams are hidden with short pieces of logs that have been shaped to resemble the typical interlocking logs. It is not clear if these sawn lumber beams and posts are part of the original construction or have been added, perhaps as part of a replacement or deterioration.

The exterior wall logs at the ends of the building are stabilized by the interlocking connections with the perpendicular walls. Above the eave height, where the perpendicular wall terminates, the exterior wall logs are stabilized by a nailed connection to the roof framing at the ends of the logs.

At two locations along each side wall, the horizontal log walls are interrupted with a vertical log around 16-inches in diameter. The ends of the horizontal logs each side of this vertical log have

been shaped to fit against the round surface. One or two large nails were used to secure the horizontal logs to the vertical log.

There are several non-structural interior walls constructed with a single layer of tongue and grooved sheathing and no intermediate framing.

Roof Structure

The double pitched roof structure includes heavy timber trusses, rafters and sheathing.

Two of the heavy timber trusses bear directly onto the two interior crosswalls. The other two walls span between side walls with an intermediate support location at the longitudinal interior wall. The truss components are around 6 ½' by 6 ¼" timber with traditional notched connections and minimal mechanical fasteners.

The 1x ridge beam spans between the trusses. Sawn lumber rafters are supported by the ridge and the exterior walls. The roof sheathing consists of skip sheathing – 1x6 horizontal sheathing boards at around 30-inches on center and vertical 7" wide smooth bevel-edged sheathing. Split wood shakes were installed for roofing. In one location where a gap has opened between sheathing, a block roofing felt, building paper or similar layer was observed.

Perimeter Deck

A sawn lumber deck extends around all four sides of the building. The deck around the west side of the building appears to be an older redwood deck with untreated joists and beams. The deck on the east side of the building appears to be newer and included pressure-treated beams and joists and untreated wood decking. The deck beams are typically supported by vertical logs of around 12-inches in diameter at the edge of the deck and on 6x6 sawn lumber posts at the edge of the

building.

CONDITION OF EXISTING STRUCTURE

Summary

In general, the building is in a reasonably good condition. The substructure and exterior decks have suffered varying degrees of deterioration and replacement or strengthening will be required to prevent further deterioration or to restore the building for a future use. The above grade portions of the structure are typically in a good condition, with relatively small areas of localized deterioration. Due to shrinkage, significant gaps have opened in the walls, allowing rodents to occupy the building.

Substructure

Three of the embedded poles were tested for deterioration below grade by pushing a screwdriver into the pole just below grade. In all three locations, the screwdriver could penetrate easily the full 6-inch length of the blade, suggesting significant deterioration of the below-grade portion of the poles. This is expected to be a fairly typical condition for the buried portions of the vertical poles. The above-grade portions of the poles were typically found to be in a reasonably good condition.

Posts on concrete footings were typically in better condition although some deterioration may be expected at some post bases.

Other improvements may be necessary as part of a seismic retrofit.

Floor Framing

The floor framing is typically in good condition. The finished wood floor showed little distortion, squeaks, cupping, warping, etc. Overall the floors appear to be sound and level.

At some locations, particularly where the log walls penetrate through the floors, gaps appear to have opened up, allowing rodents to enter the building. These gaps should be closed.

The connection of the floor framing to the log walls and vertical pole substructure may have to be improved as part of a seismic retrofit.

Log Interior and Exterior Walls

In general, the log walls appear to be in good condition. Some localized beetle or termite damage was observed and a more extensive inspection should be completed by a licensed pest control firm. Some gaps have developed between logs due to shrinkage and loss of the fibrous caulk material. These gaps should be re-filled and made rodent-proof.

The roof overhangs the exterior walls by around 2-feet, providing some protection from rain. In general, the horizontal logs do not appear to have significant deterioration due to weather. However, at the corners of the building, the interlocking horizontal logs extend around 12-inches beyond the face of wall. These projecting ends of the logs have less protection from the roof overhang, and some of the lower logs have experienced significant water damage and deterioration. The short pieces of shaped logs at the ends of the sawn beams have in some cases experienced significant deterioration and have become detached.

The lower portions of the walls may also have experienced some water damage. The sawn lumber beams are generally hidden from view although movement of the split log cladding at some locations has exposed some portions of the beams. It may be necessary to temporarily remove the split log cladding to allow complete examination of the sawn lumber beams and repair as necessary.

The horizontal logs have generally experienced significant drying shrinkage. The moisture content of freshly cut lumber can be around 50%, including free water between the cells and water within cell walls. With long term exterior exposure, the moisture content of the lumber reduces until it is at equilibrium with the humidity of the air, typically between 10% to 15% for exterior conditions. During the first drying phase, free water between the cells is lost, reducing the moisture content to around 30%. The second drying phase results in water loss from within the cell walls, and as this water is lost, the cells shrink, resulting in shrinkage of the lumber.

For redwood, drying shrinkage for this change in moisture content would result in a change in length of around 0.1%. The longest logs are around 35-feet long, resulting in a change in length of less than ½-inch. Radial shrinkage occurs at a much higher rate of around 3% to 4%. This would result in a single 12-inch diameter log reducing in diameter to 11 ¾-inches. For walls 10-logs high, this would result in shrinkage of around 3-inches in height.

This differential shrinkage rates have resulted in significant gaps developing in some areas. The non-structural interior walls, for example, were originally built with semi-circular cut-outs to fit tightly into the log wall. As the horizontal logs have shrunk, the cut-outs now fit reasonable well at the base of the wall but are mis-aligned by several inches at the top of the wall. This was also observed at the chimney where the gap between stone chimney and the log wall was filled with mortar. We assume that the doors and windows have been adjusted over time to accommodate the shrinkage of the horizontal logs as the doors and windows fit reasonably well and do not show signs of distress. Given the age of the building, further shrinkage is not expected. If the interior of the building is conditioned in the future, humidity levels may reduce and some additional shrinkage may result. These gaps are typically non-structural although should be filled to prevent rodent entry.

The horizontal logs in the end wall gables are only attached to the roof. These logs may become unstable during an earthquake and could be a significant falling hazard. These logs may require additional connections as part of a seismic retrofit. It may be possible to limit this to installing additional connections to roof, but additional structural elements on the interior face of the wall may be required.

Roof Structure

In general, the roof structure appears to be in good condition, with no significant deterioration or distress observed. The shingles may need to be replaced in the near future, although the evaluation of roofing materials is outside of our expertise.

The roof structure bears directly on the log walls. As these bearing walls have reduced in height, the roof structure has lowered. However, two of the roof trusses are supported by vertical logs rather than horizontal logs and some of the trusses also have an intermediate support at the interior walls. Due to potential differential shrinkage between vertical and horizontal logs, some gaps have appeared between the roof structure and the supporting walls.

This has changed the support conditions of the trusses, and the top connection of at least one truss has opened significantly. Under normal conditions, this joint would be kept closed by the compression forces in the truss. However, due to loss of support at the end of the truss and the additional support from the vertical log at the end of the interior wall, the top joint has now opened. This has also resulted in a significant gap opening in the roof sheathing, with the roofing felt

or similar material clearly visible between the end of the sheathing and the ridge. While this does not appear to have resulted in any issues, leakage may occur due to the movement of the roof shingles.

In general, the differential shrinkage does not appear to have resulted in significant structural issues. Some adjustments may still be necessary, such as lowering the top of some the vertical logs or shimming the support locations of trusses.

Additional connections of the roof framing to the walls and vertical logs may be required as part of a seismic retrofit.

Perimeter Deck

The older deck on the west side of the building is in very poor condition and portions have already collapsed. This deck should be replaced including all sub-framing.

The newer deck on the east side of the building is in reasonable condition, although some boards and joists may require replacement or strengthening.

Portions of guardrail are missing. The guardrail does not meet current code requirements and may not be considered adequate to prevent falls. The deck is more than 10-feet above grade.

SUMMARY

In general, the building is in a reasonable good condition. The substructure and exterior decks have suffered varying degrees of deterioration and replacement or strengthening will be required to prevent further deterioration or to restore the building for a future use. The above grade portions of the structure are typically in a good condition, with relatively small areas of localized deterioration. Due to shrinkage, significant gaps have opened in the walls, allowing rodents to occupy the building.

Should you have any questions, please do not hesitate to call.

Sincerely,

BIGGS CARDOSA
ASSOCIATES, INC.

Anthony Richardson
Senior Engineer

APPENDICES:

Appendix 1 – Photographs

Appendix 2 – Record Drawings

APPENDIX 1 – PHOTOGRAPHS


DETERIORATION OF WOOD POLE FOUNDATIONS

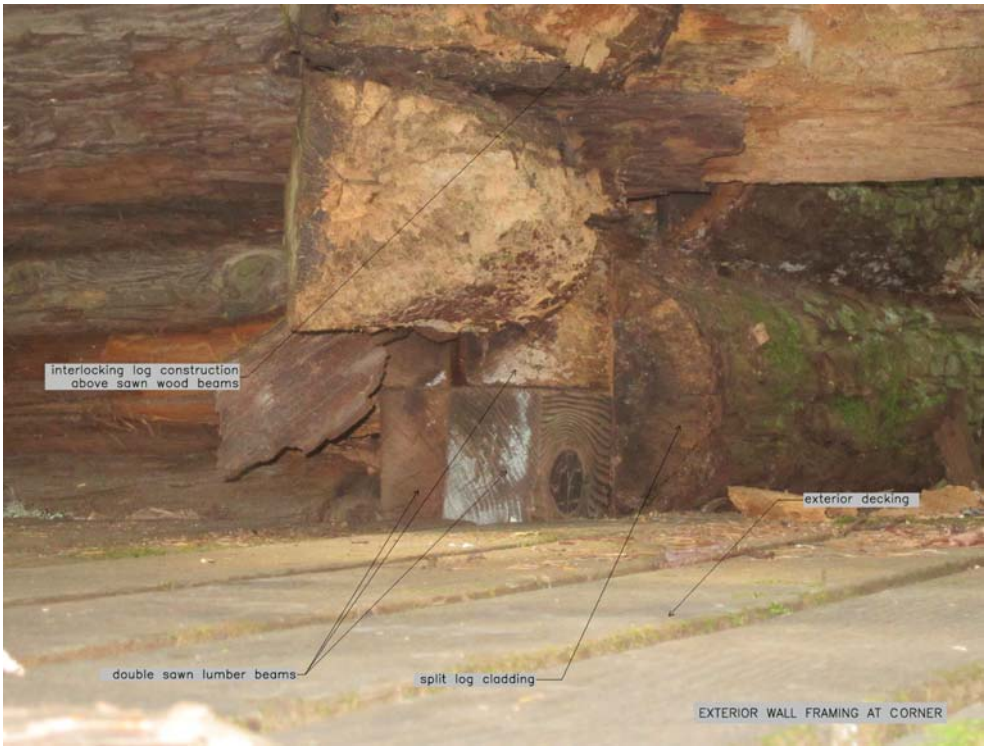

sawn lumber floor joists with diagonal sheathing above
floor beam
pressure treated deck framing
built-up post
double 3x sawn wood beam built into bottom of wall
FLOOR FRAMING ALONG EAST WALL


floor joist with diagonal sheathing above
bottom log of interior log wall
sawn wood floor beam each side of log
bottom of fireplace and chimney
SUPPORT AT INTERIOR LOG WALL

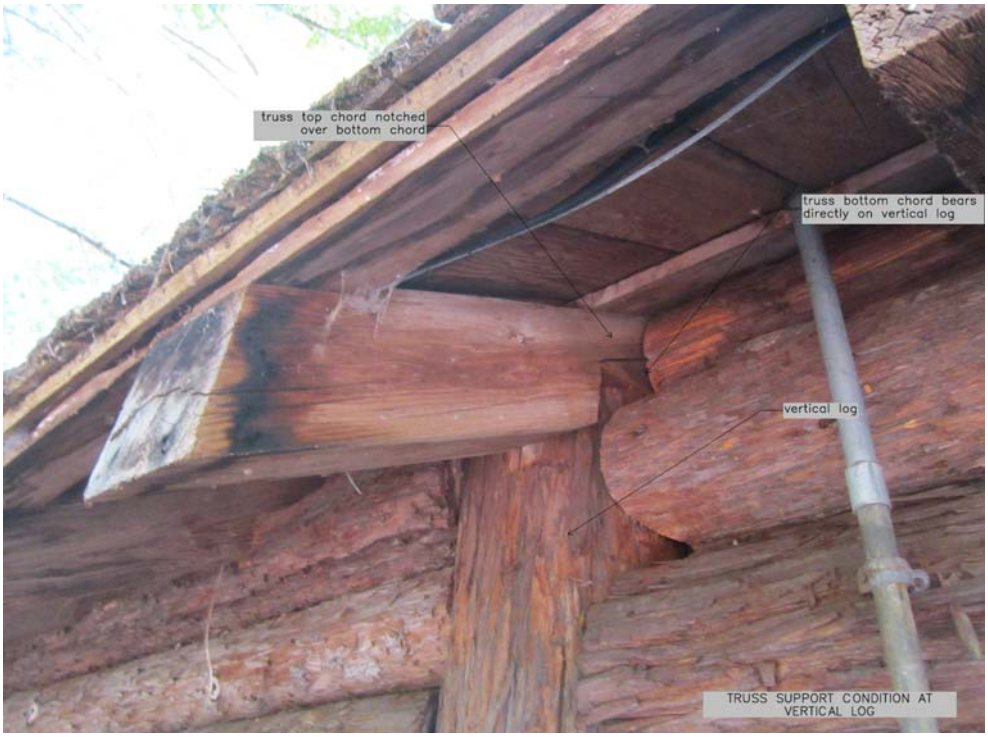

natural fibrous caulk
vertical wood dowel connector between logs
window or door frame
EXTERIOR LOG WALL FRAMING


vertical log at truss
pressure treated sawn lumber, possible previous repair
sawn wood beam at base of longitudinal wall with split log cladding
exterior decking
BASE OF VERTICAL LOG

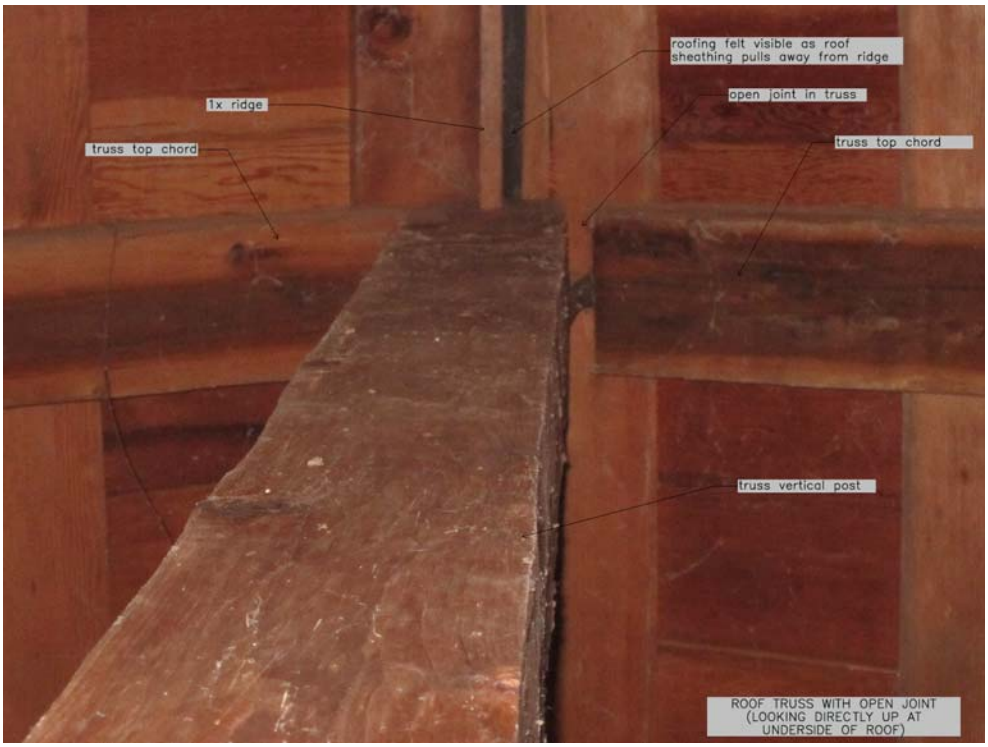

wall logs birdsmouthed around vertical log
one or two large nails per log each side
LOG WALL CONSTRUCTION AT VERTICAL LOG


interlocking log construction above sawn wood beams
exterior decking
double sawn lumber beams
split log cladding
EXTERIOR WALL FRAMING AT CORNER


deteriorated shingles
sawn wood decking in good condition
EDGE OF ROOF DECK AND SHINGLES

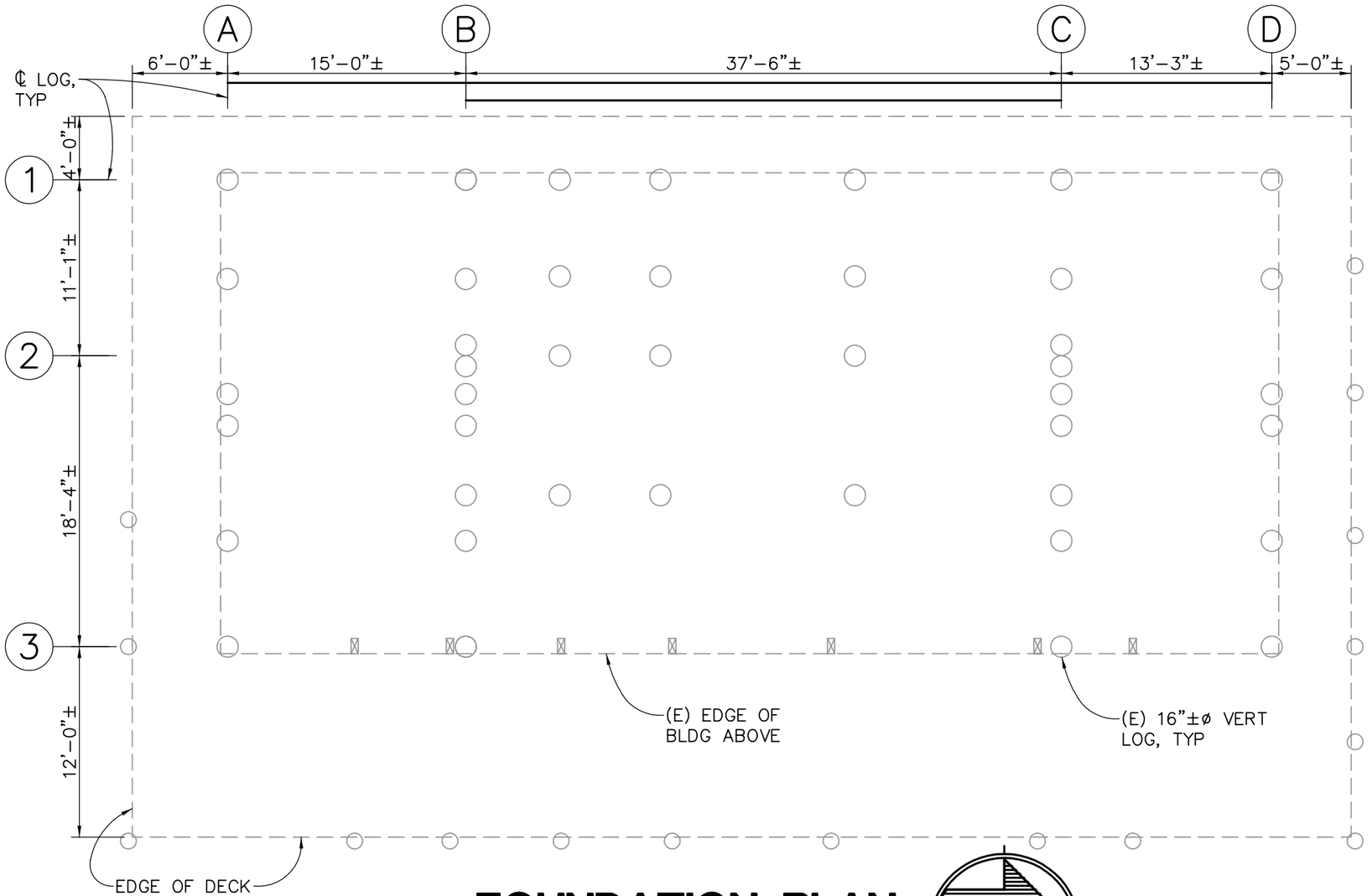

truss top chord notched over bottom chord
truss bottom chord bears directly on vertical log
vertical log
TRUSS SUPPORT CONDITION AT VERTICAL LOG


6" log infill between rafters
rafter notched for bearing on log, possible gap opened up
exterior of log wall
RAFTER SUPPORT AT EXTERIOR WALL


roofing felt visible as roof sheathing pulls away from ridge
1x ridge
open joint in truss
truss top chord
truss top chord
truss vertical post
ROOF TRUSS WITH OPEN JOINT (LOOKING DIRECTLY UP AT UNDERSIDE OF ROOF)


pressure treated deck framing
REPLACEMENT DECK FRAMING

APPENDIX 2 – RECORD DRAWINGS



FOUNDATION PLAN

1/8" = 1'-0"

PLAN CHECK SET/NOT FOR CONSTRUCTION (5/14/15)

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS

865 The Alameda
San Jose, California 95126
408-296-5515

BCA

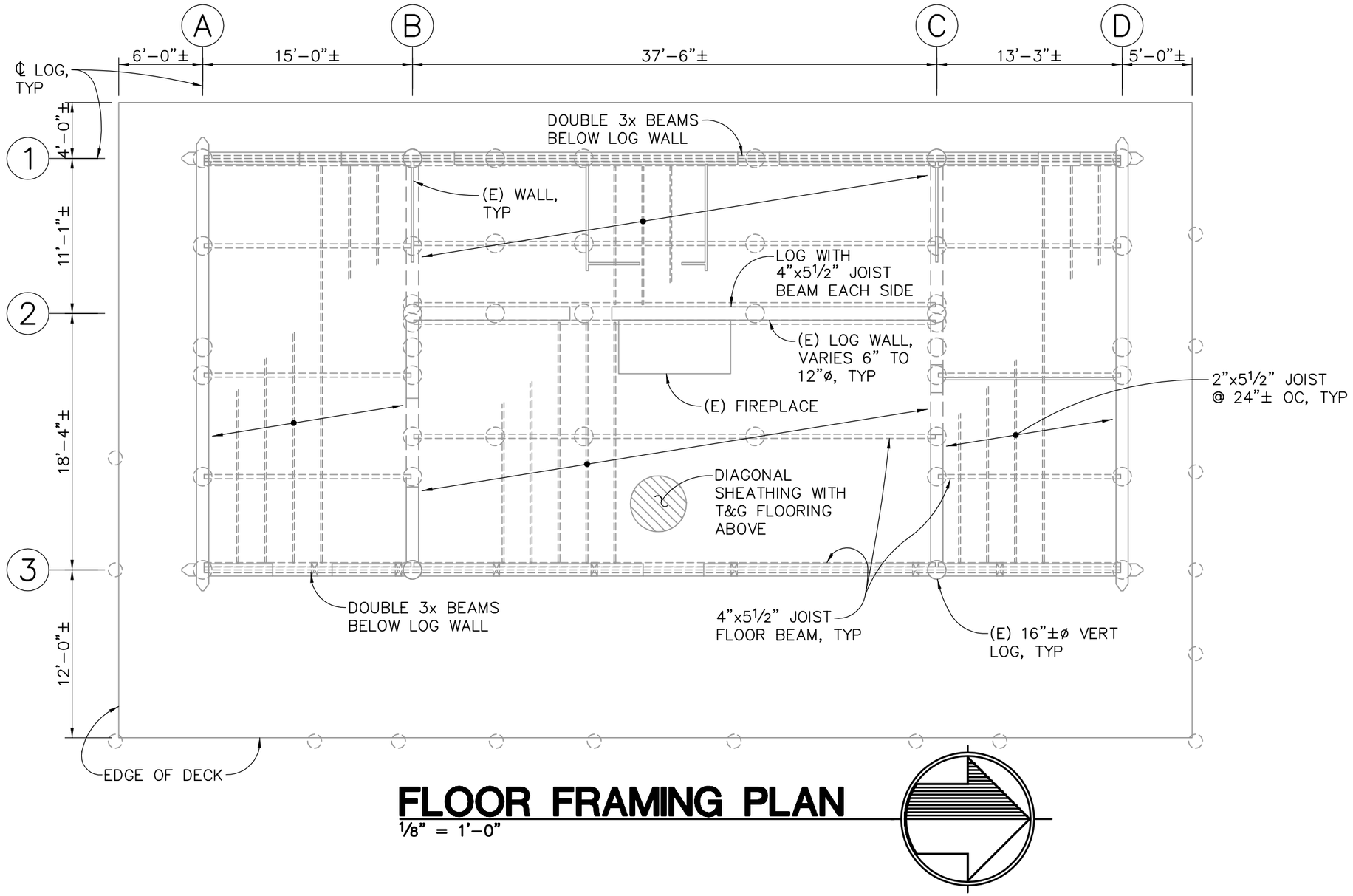
FOUNDATION PLAN

Redwood Log Cabin

La Honda Creek Open Space Preserve

DESIGNED BY: AWR	DATE: 4/29/15
DRAWN BY: RLQ	SCALE: AS NOTED
CHECKED BY:	JOB No.: 2015105
SHEET OF	
DRAWING No. S100	REV. No. 0

(2015105S100) 2015105



FLOOR FRAMING PLAN

1/8" = 1'-0"

PLAN CHECK SET/NOT FOR CONSTRUCTION (5/14/15)

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS

865 The Alameda
San Jose, California 95126
408-296-5515

BCA

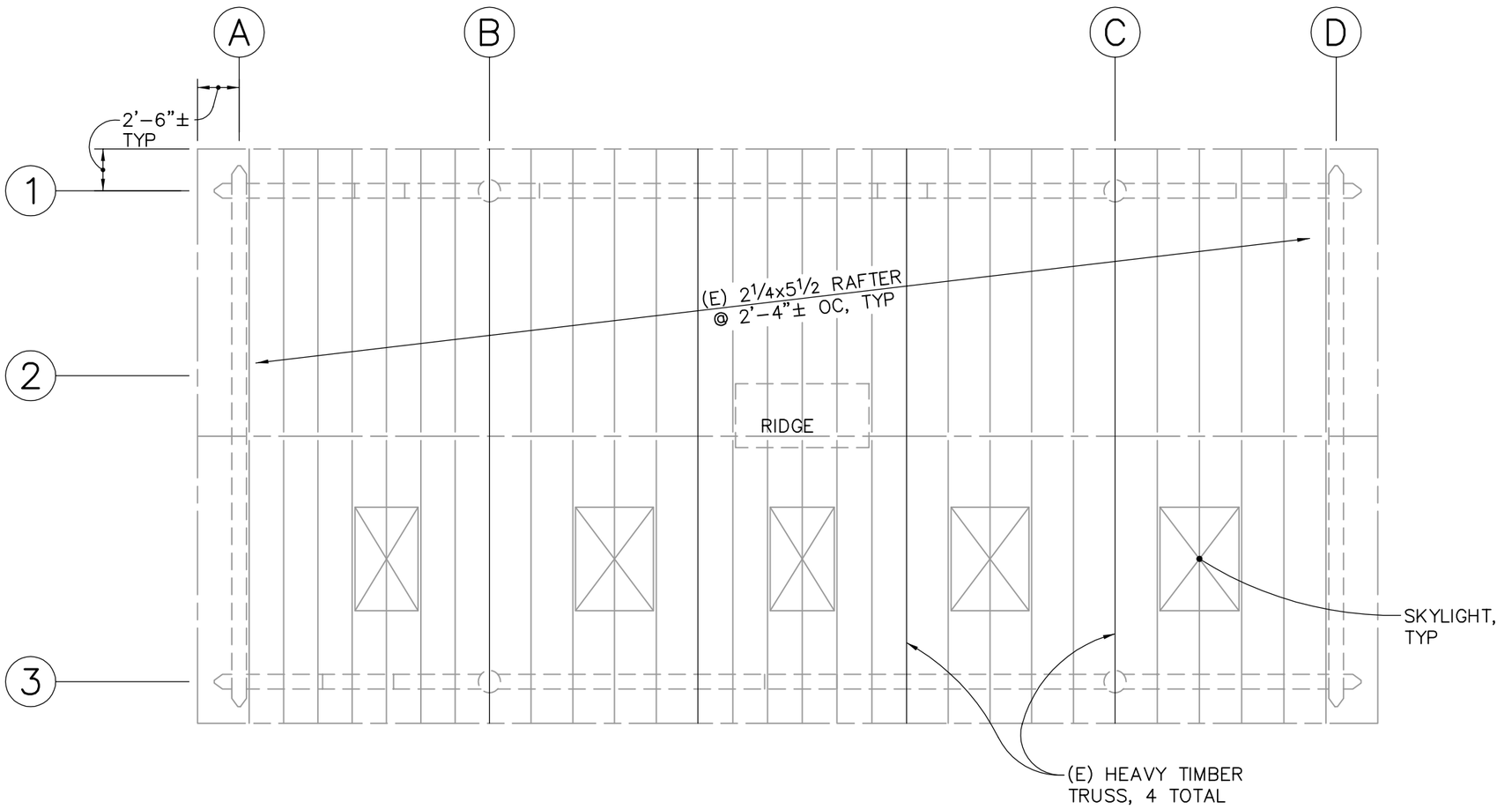
FLOOR FRAMING PLAN

Redwood Log Cabin

La Honda Creek Open Space Preserve

DESIGNED BY: AWR	DATE: 4/29/15
DRAWN BY: RLQ	SCALE: AS NOTED
CHECKED BY:	JOB No.: 2015105
SHEET OF	
DRAWING No.	REV. No.
S101	0

(2015105S101) 2015105



ROOF FRAMING PLAN

⅛" = 1'–0"

PLAN CHECK SET/NOT FOR CONSTRUCTION (5/14/15)

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS

865 The Alameda
San Jose, California 95126
408–296–5515

BCA

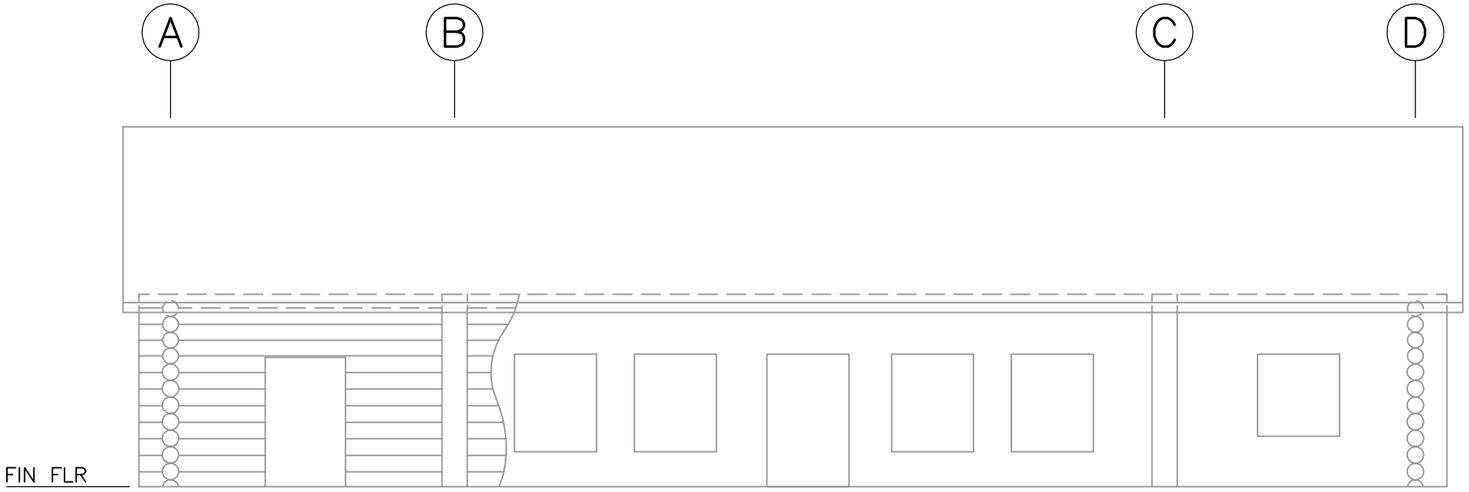
ROOF FRAMING PLAN

Redwood Log Cabin

La Honda Creek Open Space Preserve

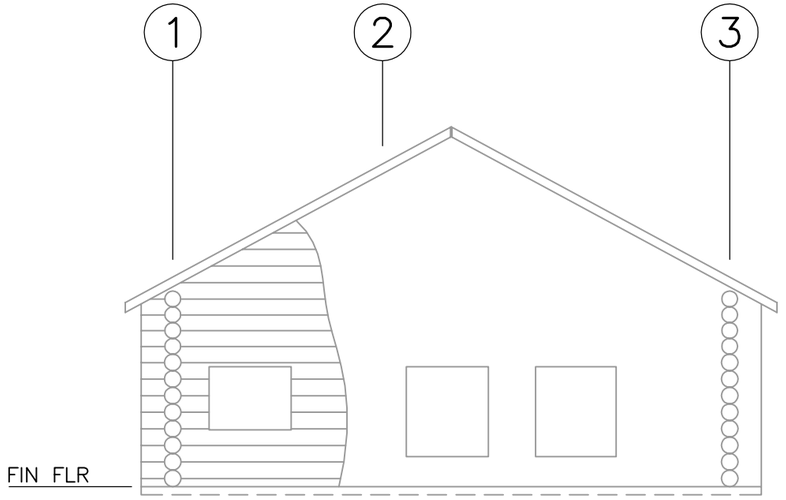
DESIGNED BY: AWR	DATE: 4/29/15
DRAWN BY: RLQ	SCALE: AS NOTED
CHECKED BY:	JOB No.: 2015105
SHEET OF	
DRAWING No. S102	REV. No. 0

(2015105S102) 2015105



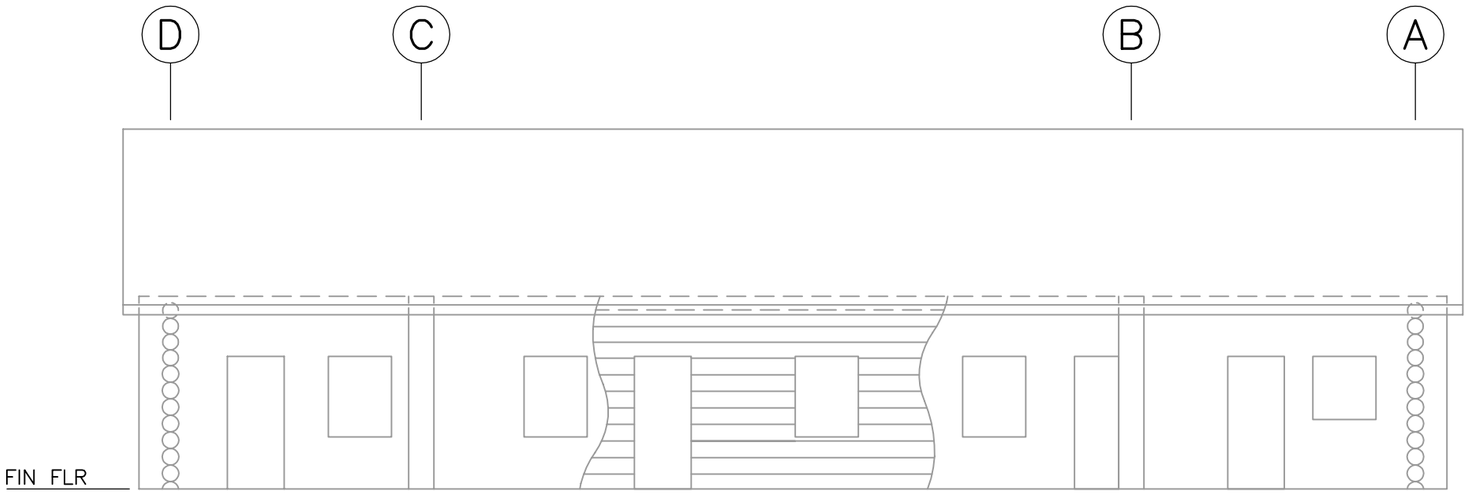
EAST ELEVATION (GRID 3)

1/8" = 1'-0"



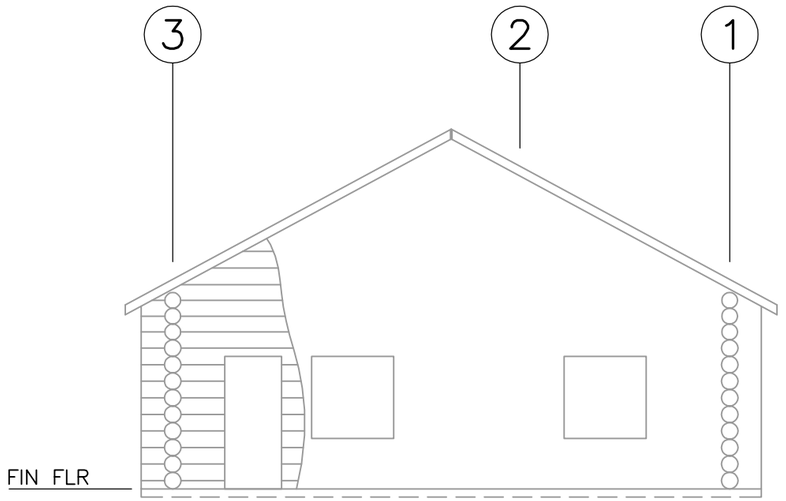
SOUTH ELEVATION (GRID A)

1/8" = 1'-0"



WEST ELEVATION (GRID 1)

1/8" = 1'-0"



NORTH ELEVATION (GRID D)

1/8" = 1'-0"

PLAN CHECK SET/NOT FOR CONSTRUCTION (5/12/15)

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS

865 The Alameda
San Jose, California 95126
408-296-5515

BCA

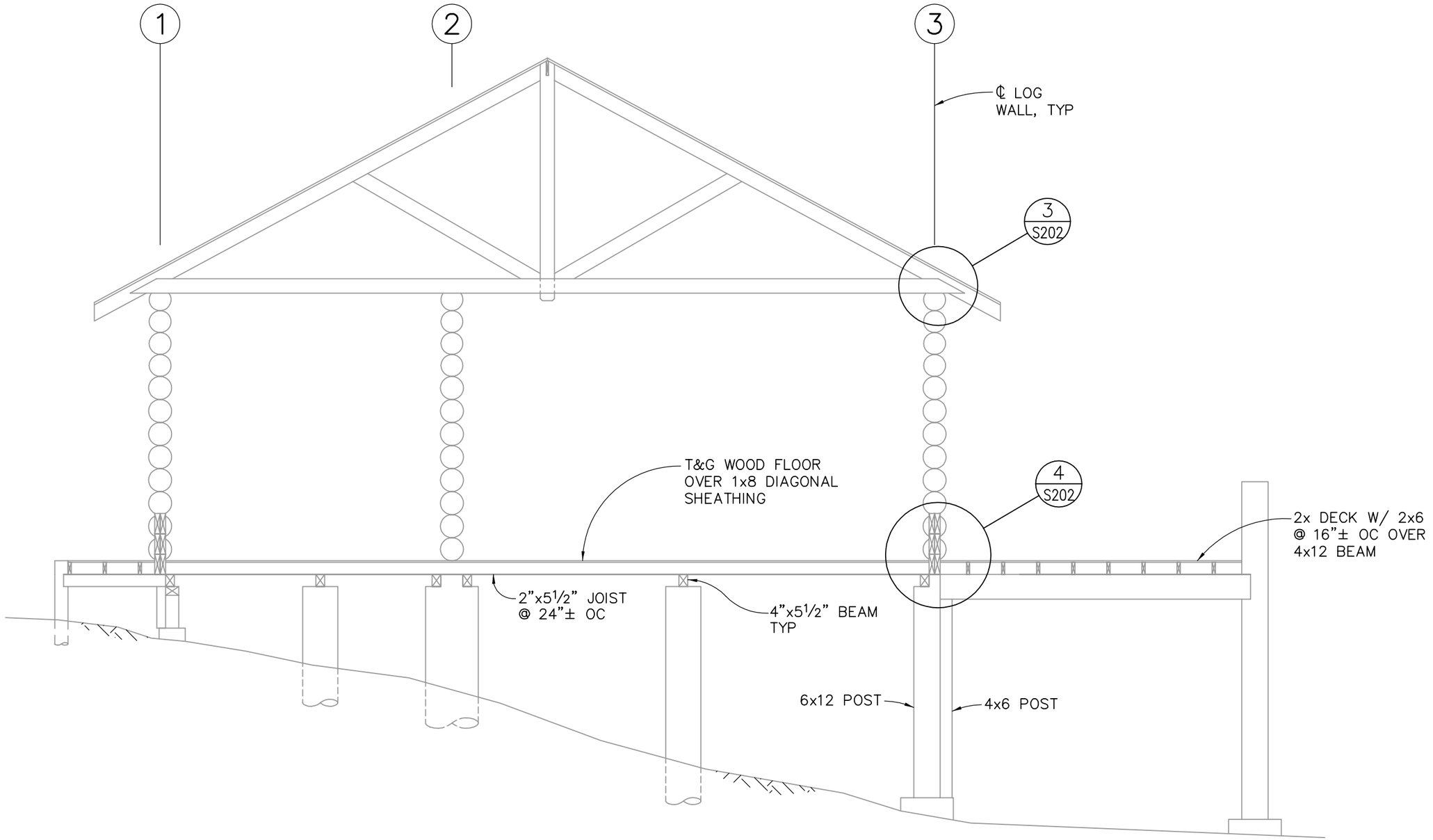
ELEVATIONS

Redwood Log Cabin

La Honda Creek Open Space Preserve

DESIGNED BY: AWR		DATE: 5/1/15	
DRAWN BY: RLQ		SCALE: AS NOTED	
CHECKED BY:		JOB No.: 2015105	
SHEET	OF		
DRAWING No.			REV. No.
	S200		0

(2015105S200) 2015105



TYPICAL SECTION

1/4" = 1'-0"

PLAN CHECK SET/NOT FOR CONSTRUCTION (5/12/15)

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS

865 The Alameda
San Jose, California 95126
408-296-5515

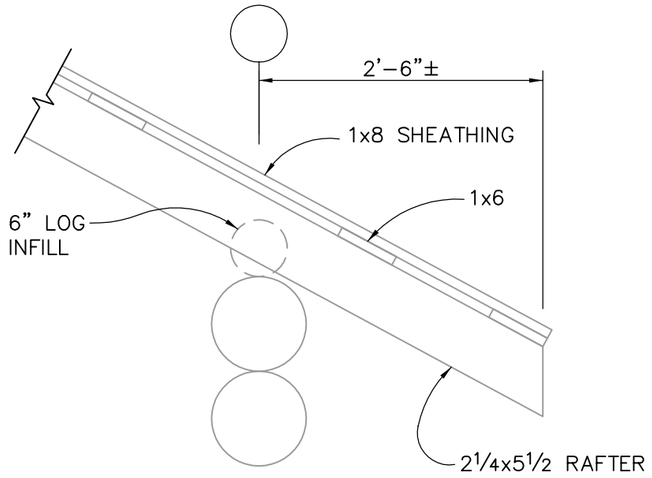
TYPICAL SECTION

Redwood Log Cabin

La Honda Creek Open Space Preserve

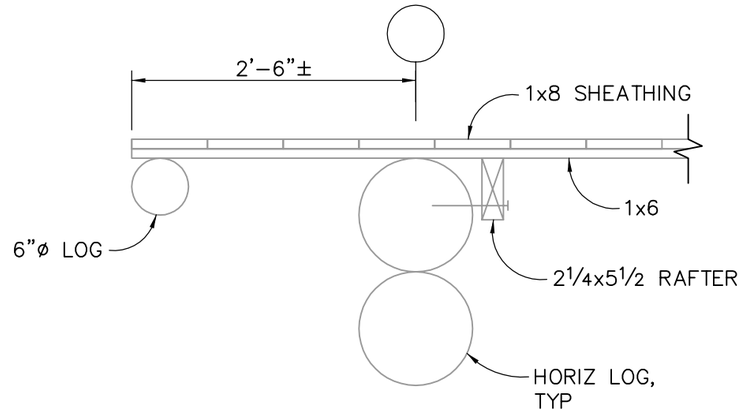
DESIGNED BY:	AWR	DATE:	5/1/15
DRAWN BY:	RLQ	SCALE:	AS NOTED
CHECKED BY:		JOB No.:	2015105
SHEET	OF		
DRAWING No.		REV. No.	
S201		0	

(2015105S201) 2015105



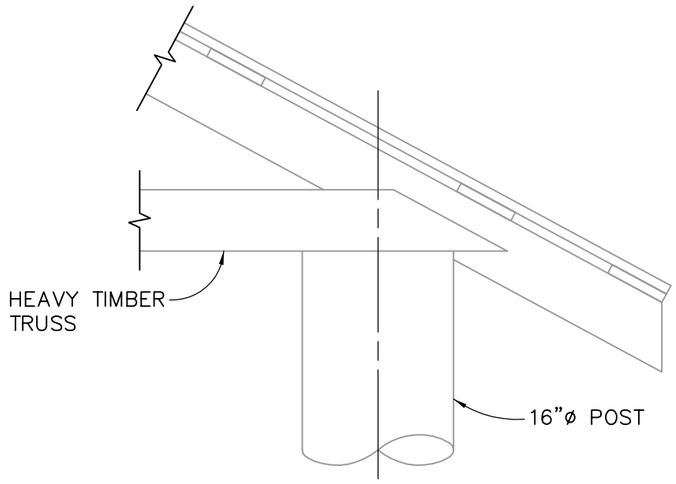
TYPICAL EAVE DETAIL

DETAIL 1 S202
¾" = 1'-0"

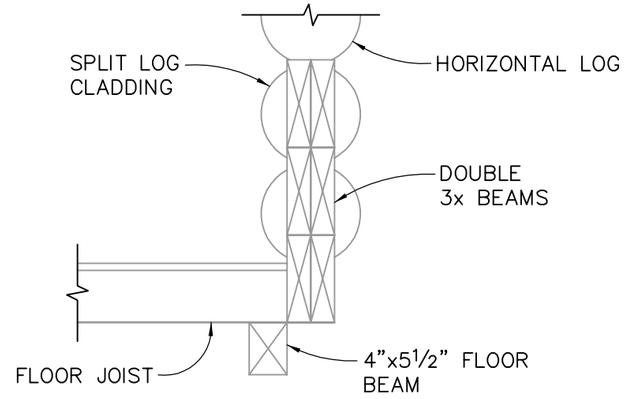


TYPICAL GABLE DETAIL

DETAIL 2 S202
¾" = 1'-0"



DETAIL 3 S202
¾" = 1'-0"



DETAIL 4 S202
¾" = 1'-0"

PLAN CHECK SET/NOT FOR CONSTRUCTION (5/13/15)

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
865 The Alameda
San Jose, California 95126
408-296-5515

DETAILS

Redwood Log Cabin

La Honda Creek Open Space Preserve

DESIGNED BY: AWR	DATE: 5/1/15
DRAWN BY: RLQ	SCALE: AS NOTED
CHECKED BY:	JOB No.: 2015105
SHEET OF	
DRAWING No.	REV. No.
S202	0

(2015105S202) 2015105

HISTORIC STRUCTURE REPORT

WHITE BARN, DEER HOLLOW FARM
APN 351-08-009
[17286]

PREPARED FOR:
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT

PRIMARY PROJECT CONTACT:
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San Francisco, CA 94104
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PAGE & TURNBULL
imagining change in historic environments through design, research, and technology

MARCH 2018

All images have been taken by Page & Turnbull, 2017, unless noted otherwise.

TABLE OF CONTENTS

INTRODUCTION 1
Study Summary 1
Project Data 1
PART 1: DEVELOPMENTAL HISTORY 5
Historical Background and Context 5
Chronology of Development and Use 7
Physical Description 9
Evaluation of Significance 11
Conditions Assessment 13
Structural Observations 25
PART II. TREATMENT AND WORK RECOMMENDATIONS 27
Summary of Recommendations 27
Historic Preservation Objectives 27
Requirements for Work 28
Work Recommendations and Alternatives 29
Recommendations By Material & Location 29
Expected Maintenance 34
REFERENCES 35
Published Works 35
Unpublished Works 35
Newspaper Articles 35
Public Records 35
Maps 35
APPENDIX 37

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INTRODUCTION

STUDY SUMMARY

PURPOSE

This HSR for the White Barn at Deer Hollow Farm has been prepared at the request of the Midpeninsula Regional Open Space District to support an anticipated repair project. Historic Structure Reports (HSR) are prepared in advance of any anticipated rehabilitation, restoration or major maintenance work on a building that has been identified as a historic resource. According to the National Park Service publication *Preservation Brief 43: The Preparation and Use of Historic Structure Reports*, upon which this HSR is based,

> The historic structure report is an optimal first phase of historic preservation efforts for a significant building, preceding design and implementation of its preservation, rehabilitation, restoration, or reconstruction. If work proceeds without a historic structure report as a guide, physical evidence important to understanding the history and construction of the building may be destroyed. The preparation of a report prior to initiation of work provides documentation for future researchers. Even more importantly, prior preparation of a report helps ensure that the history, significance, and condition of the property are thoroughly understood and taken into consideration in the selection of an appropriate treatment and in the development of work recommendations. A well prepared historic structure report is an invaluable preservation guide.

The scope and scale of the repair project at the White Barn has not yet been determined, and is anticipated to be guided in part by the findings of this report.

SUMMARY OF FINDINGS

The White Barn is in fair material condition overall, however, it is structurally deficient. Materials themselves are fair and functional, performing as intended, however certain integral damage, most notably insect damage to the structural timbers, present concern for continued use in its current condition.

RECOMMENDATIONS FOR TREATMENT AND USE

Repair recommendations are directed by the objectives of bringing the building up to the current historic building code, preserving as much of the existing material as is viable, and retaining its current barn use and public use spaces.

Treatment alternatives are provided in the report to accommodate some of the available options for repairs. Any repair or rehabilitation project for the White Barn should consider these treatment recommendations and guidelines through this lens of intended flexibility.

PROJECT DATA

LOCATION

The White Barn is one of several buildings that compose Deer Hollow Farm, which is located in the Rancho San Antonio Open Space Preserve in the hills above Los Altos Hills, Santa Clara County. The property's Assessor Parcel Number is 351-08-009, and the property is currently assigned 0 Ravensbury Avenue as the official situs address. However, 7550 St. Joseph Avenue, Los Altos and 22500 Cristo Rey Drive, Cupertino are two other addresses used for

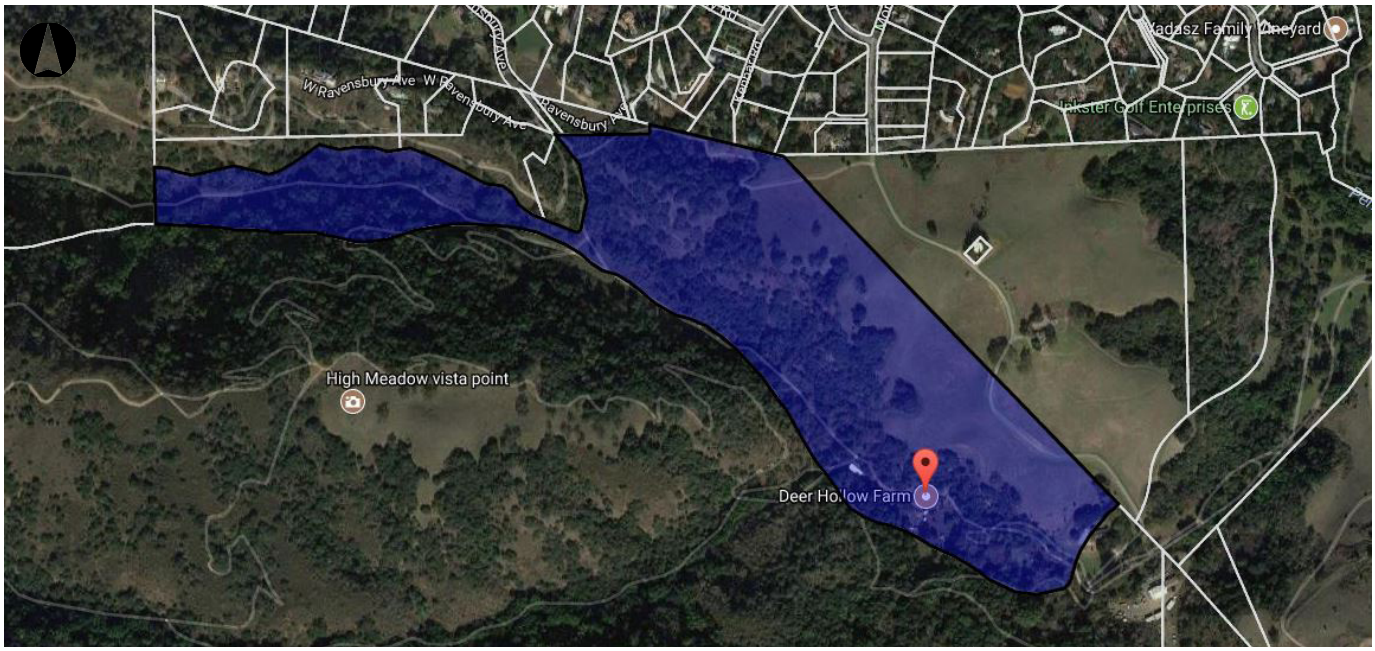

Image 1 - Subject property highlighted blue. Location of Deer Hollow Farm and the White Barn are indicated by a red location marker. Source: Santa Clara County's Office of the Assessor and Google Maps, edited by Page & Turnbull.

Image 2 - Location of the White Barn at Deer Hollow Farm indicated by a red location marker. Source: Google Maps, edited by Page & Turnbull.

the property.

OWNERSHIP

The White Barn at Deer Hollow Farm is currently owned by the Midpeninsula Regional Open Space District (MROSD), and is jointly operated by MROSD and the City of Mountain View, with additional financial support provided by the County of Santa Clara and Friends of Deer Hollow Farm.

HISTORIC STATUS

The White Barn and Deer Hollow Farm do not specifically appear to have been evaluated for listing in the local, state, or national register. The farm property does not appear in the California Historic Resources Information System (CHRIS) database with a status code (last updated in April 2012), which means it has not formally been evaluated with findings submitted to the California Office of Historic Preservation. However, the Rancho San Antonio Open Space Preserve (7400 St. Joseph Avenue) was given a Status Code of 3 and 3S in December 1988, which means the Rancho San Antonio Open Space Preserve, inclusive of the White Barn and Deer Hollow Farm, appears eligible for the National Register of Historic Places as an individual property through survey evaluation.[1]

This HSR provides a preliminary evaluation of significance for the White Barn using the criteria for the California Register of Historical Resources (California Register).

DOCUMENT ORGANIZATION

This HSR follows guidance provided in *Preservation Brief #43: The Preparation and Use of Historic Structure Reports*, and recommended treatments comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. Referencing the recommended format, the HSR includes two main parts: Part 1 includes historical background, significance evaluation, and a conditions assessment. Part 2 includes historic preservation objectives and treatment recommendations for the site.

METHODOLOGY

Completion of the HSR included the following activities:

- Kickoff site meeting and initial field survey on November 9, 2017.
- Research, including Santa Clara County's Office of the Assessor, Department of Planning and Development, Santa Clara Public Libraries, Santa Clara County Historical & Genealogical Society, David Rumsey Map Collection, Online Archive of California, Ancestry.com, and files from Carla Dorow via MROSD.
- Conditions evaluations and related treatments were determined after the initial site visit.

PROJECT TEAM

Page & Turnbull - Architecture & Architectural History
417 Montgomery Street, 8th Floor
San Francisco, CA 94104

Peter Birkholz, AIA, Principal in Charge
Ruth Todd, FAIA, Consulting Principal
Christina Dikas, Project Manager
Maggie Smith, Architectural Historian
Caitlin Turner, Conservator

DCI Engineers - Structural Engineering
One Post Street, Suite 1050
San Francisco, CA 94104

Jack Laws, PE, SE, Principal

1 California State Office of Historic Preservation, *Technical Assistance Bulletin #8: User's Guide to the California Historical Resource Status Codes & Historic Resources Inventory Directory* (November 2004) 9.

J.R. Conkey & Associates - Cost Estimating
735 Sunrise Avenue, Suite 200
Roseville, CA 95661

Scott Ransdell, Senior Vice President

Image 3 - Features of Deer Hollow Farm. White Barn outlined in orange. Source: MROSD and City of Mountain View Lease Agreement, July 2015.

PART 1: DEVELOPMENTAL HISTORY

HISTORICAL BACKGROUND AND CONTEXT

The area where Deer Hollow Farm is now located was initially inhabited by members of the Ohlone or Costanoan cultural group.[1] While under Spanish rule, the land was owned by Mission Santa Clara. Following Mexican governance and secularization, Governor Alverado granted Rancho San Antonio to Juan Prado Mesa in 1939, including a portion of the subject property. Rancho San Antonio contained about 4,438 acres that extended from Adobe Creek (previously Purissima Concepcion Creek, San Antonio Creek, and Doby Creek) to Stevens Creek (previously Cupertino Creek). The rancho's namesake is St. Anthony of Padua, a famous Saint of the Franciscan order.[2] The Mesa family's debt led to the division of Rancho San Antonio and the sale of 3,541.89 acres to William A. and Henry F. Dana, whose claim was filed in 1853 but was not confirmed until 1857.

In 1853, brothers Theodore Franklin and George Henry Grant claimed 160 acres of public land in Fremont Township adjacent to Rancho San Antonio, as encouraged by the Legislature of California for the purpose of preempting, improving, and cultivating the land.[3] The brothers hiked and camped the preempted lands, and soon decided to live permanently on the land. They occupied an existing cabin and claimed additional land. Information regarding the amount of additional land, the names of the people they bought it from, and when the sales occurred varies between research sources; however, according to historic atlas maps from 1876 and 1890, their additional purchases encompassed 190 acres, including an approximately 75-acre portion of Rancho San Antonio. According to the maps, their original claim plus the additional sales of land totaled approximately 360 acres.

Image 4 - 1876 atlas map of Santa Clara County by Thompson & West, showing subject property. Source: David Rumsey Map Collection, edited by Page & Turnbull.

1 Archives & Architecture, LLC., *County of Santa Clara Historic Context Statement*, County of Santa Clara Department of Planning and Development, Planning Office (December 2004, revised February 2012), 19.
2 Karin Bivens, "Rancho San Antonio Open Space Preserve," (n.d.), 11.
3 Lois Adams, "Grant History," (1972), 3-4.

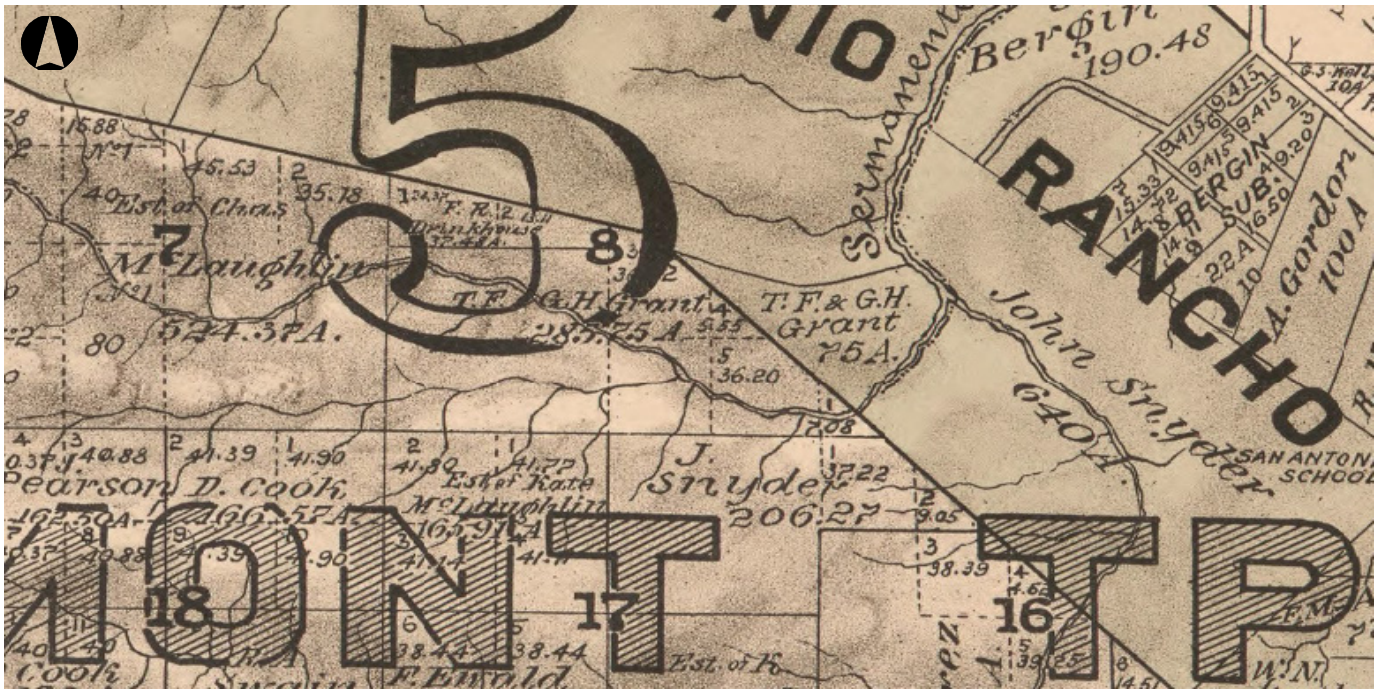

Image 5 - 1890 atlas map of Santa Clara County by Herrmann Bros., showing subject property. Source: Library of Congress, edited by Page & Turnbull.

The Grant brothers were born in the Roxbury section of Boston, Massachusetts to parents Charles and Sarah Richards Grant. George Henry Grant was born July 2, 1826 and Theodore Franklin (Frank) Grant was born on February 22, 1828. Although Frank was the younger of the two, he was the first to travel to California.[4] He arrived in San Francisco in 1850 and took charge of a store ship owned by Hawley and Sterling, then became a clerk for Montgomery House. George arrived a year later and worked at the wholesale commission stire of George Shaw & Co. before going into the grocery business with S.C. Bradshaw & Co.[5] The brothers experienced early failed entrepreneurial endeavors, including in the fishing industry (George alone) and drayage business (both).[6]

By 1851, Frank moved to Santa Clara County and held the following positions at various times into the 1860s: general merchandise clerk for Fletcher Cooper, postmaster and Treasurer of Santa Clara, stationary and periodical depot owner, Treasurer of San Jose, and Deputy Recorder of Santa Clara.[7] George also joined Frank in Santa Clara County. The brothers attempted their luck with the cattle business in the early to mid-1860s as well as the silver mining business in the late 1860s, yet neither endeavor lasted.[8] They then went into the dairy business, where George tended to 20 to 30 cows and Frank raised grain and hay for feed.[9] By 1873, the brothers sold the cows and spent their time cultivating grain and hay.[10]

While living on the subject property, called "Sleepy Hollow" by the neighbors, Frank married Irish immigrant Margaret Shaw in 1865.[11] They built a house that is no longer extant, except for a small remodeled section.[12] By 1870, they had three children: Isabella, Sarah, and Theodore Franklin, Jr, who all went to San Antonio School.[13] Margaret helped churn

4 Ibid., 1.
5 Ibid., 2.
6 Ibid.
7 "Theo. Grant will be buried today," San Hose Mercury Herald, May 3, 1924; Lois Adams, Grant History, (1972), 3.
8 Lois Adams, "Grant History," (1972), 4-7.
9 Ibid., 7.
10 "Theo. Grant will be buried today," San Hose Mercury Herald, May 3, 1924.
11 *California, Pioneer and Immigrant Files*, 1790-1950, Ancestry.com.
12 Lois Adams, "Grant History," (1972), 5.
13 *United States Federal Census* (1880), Ancestry.com; Lois Adams, "Grant History," (1972), 10.

the butter for the family's dairy business.[14] George lived and farmed on the subject property, but never married. Various buildings on the property were constructed, and some were demolished over time (see Chronology of Development and Use section below). Farm laborers often lived on the property, as did a cook for a period of time.[15] George died in 1889 and Frank died in April 1924. Margaret died shortly thereafter as well.[16]

George Sheldon (Sheldon) Perham purchased the land from the Grant family in 1937 as a country getaway for his family from their home in Hillsborough.[17] He was a San Francisco dairyman who was president of Borden's Dairy Western Division.[18] He and his wife, Frances Bell, had three children: Jane, George Sheldon Jr. (George), and Arthur.[19] Others living on the ranch included caretakers who had worked with the Perham family in Hillsborough. The property contained a large garden, chickens, and a small herd of Hereford cattle.[20] The sons, George and Arthur, helped maintain the ranch and also formed the Perham Construction Company, headquartered at the current location of the ranger headquarters and parking lot.[21]

In 1975, MROSD acquired the property, causing several people to find new homes and work.[22] The property, previously referred to as Perham Ranch or Grant Ranch, was renamed "Deer Hollow Farm" to avoid confusion with the Joseph D. Grant County Park in eastern Santa Clara County. Deer Hollow Farm provides a variety of environmental education programs for the region. It is jointly operated by MROSD and the City of Mountain View, with additional financial support provided by the County of Santa Clara and Friends of Deer Hollow Farm.

CHRONOLOGY OF DEVELOPMENT AND USE

PROPERTY

The following list of buildings, structures, and landscape features on the subject property, documented in the 1990s, is currently the most extensive inventory of the site provided by MROSD.

Name	Estimated Year Built	Description & Notes
Jasper's House (Foreman's Cabin)	1849	Two rooms, including water, electricity, toilet. Presently used in conjunction with Bar-B-Que Area.
T.F. Grant Residence	1910	Two story, detached barn. Burned down.
Ranch Shop (Blacksmith Shed)	1938	Approximately 20' by 30', work benches and blacksmith forge.
Guest House	1939	MROSD meeting place, not to code for residence.
Equipment Shed	1946	20' by 60' 800 gallon underground gas storage with pump. Chicken house behind, approximately 10' by 60'.
Mrs. G.S. Perham Residence	1949	Top of hill by water tank. Ranger residence duplex.
Four-Car Garage	1949	Top of hill by water tank. Ranger residence duplex.

14 Lois Adams, "Grant History," (1972), 7.
15 *United States Federal Census* (1870-1910), Ancestry.com.
16 "The Remarkable Story of Mr. and Mrs. T. F. Grant, Sr.," Mountain View Register Leader (May 16, 1924), 1, 4; California, Death Index, 1905-1939, Ancestry.com.
17 Joan Lewis, "Mid 20th Century at the Farm: The Perham Family," FriendsNews (Winter 2017), 6.
18 Ibid.
19 Ibid.; *United States Federal Census* (1940), Ancestry.com.
20 Joan Lewis, "Mid 20th Century at the Farm : The Perham Family," 6.
21 Ibid.
22 Ibid.

Name	Estimated Year Built	Description & Notes
Foreman's Residence (Livestock Employee's Home)	1951	Two bedrooms, garage, and storage.
A.F. Perham Residence	1957	
Shop/Office	1958	Building 38' by 72', Office 600 square feet.
Apple House	Date Unknown	Approximately 15' by 25', with water and electricity.
Carriage Shed (Office)	Date Unknown	Presently Tack-room and ranch freezer.
Hay Barn (White Barn)	Date Unknown	Two level hay storage, horse stalls, milk barns.
Large Hay Barn (Picnic)	Date Unknown	Hay storage and seeding racks.
Small Feed Shed		
Three-car Garage		
Water Storage Tanks		Approximately 40,000 gallon supplied by California Water Service.
Water Tank		Owned by California Water Service Co.
Corrals		Two large holding areas. One working corral with roping area and three small holding pens. Powder River chute and loading chute.
Fences		Approximately 8 miles barbed wire or redwood picket.
Roads		Approximately 1.25 miles of 12' wide rocked roadways and 1.75 miles of graded dirt roadways.
Irrigated Pasture		Approximately 6 acres planted to birdsfoot trefoil, tall fescue perennial rye.
Hay		Growing area rotated between two approximately 20-acre fields and on 5-acre field.
Livestock		Run approximately 3-4 horses, 23 cows, 1 bull, and 5-6 yearlings for replacement and consumption. A Cow and Calf operation. Raise and keep 100-150 laying chickens.
Family Orchard		Approximately 1.5 acres, walnut, peach, apple, persimmon, pear, plum, prune, apricot, and nectarine.
Family Vegetable Garden		One acre permanent growth of blackberries, corn, tomatoes, beans, squash, etc.

WHITE BARN

The construction date of the White Barn is unknown, however aerial photographs indicate the building was constructed before 1948.[23] In a summary of interviews from 1995 with Louis Grant and Virginia Grant Murphy (grandchildren of Frank Grant), it is noted, "there were two barns at the same location of the present ones; however, these have been rebuilt."[24] The White Barn has been used as the hay, horse, and milk barn at various times.

The only building permit application on file for the White Barn is for the recent renovation of the Milk Room in

23 Historic Aerials by NETR Online.
24 "Interviews with Louis Grant and Virginia Grant Murphy, Deer Hollow Farm," (May 1995).

2016-2017. The scope of work included removing approximately 200 square feet of existing damaged slab; removing four existing, failing masonry piers; installing approximately 200 square feet of reinforced (concrete) slab; installing approximately 58 square feet of LNLFT perimeter foundation; and installing a floor drain and an approximately 120-foot drain line to the existing vault.[25] There do not appear to have been any other significant changes to the White Barn other than general wear and use as a farm support structure over the years.

PHYSICAL DESCRIPTION

The White Barn at Deer Hollow Farm is located near the center of the homestead along the Rancho San Antonio Service Road, approximately 35 feet northwest of the Apple Shed and 60 feet south of a dry creek bed. The White Barn has a northeast-southwest orientation. The wood frame building is about 30 feet wide by 58 feet long and is 25 feet tall at its highest point. There are three sections: the front-gabled center of the barn and shed-roofed extensions to the northwest and southeast from the center. All roofs are clad with corrugated, galvanized sheet metal roofing panels. It has a concrete slab foundation in the east corner and is otherwise be supported by low brick piers. The White Barn is clad with circular saw-cut wood boards placed vertically and painted white. There are a variety of openings on all facades, including: wood sliding and hinged windows and doors, two vinyl windows, and some openings that are not covered.

The interior of the building is divided up into several sections, and wood is the dominant material. In the northwest shed-roofed extension there is a milk room to the south and a goat pen to the north. The center section is dedicated to hay storage, with a hay loft in the gable above (accessed by a steep wood staircase). In the southeast shed-roofed extension, there are horse stalls, which are currently used for storage. The horse stalls and goat pen have openings that are connected to the center hay storage section. There are also openings in the hay loft's floor which provide access to various parts of the ground floor.

CHARACTER-DEFINING FEATURES

Exterior:

- Spatial relationship to the land and adjacent buildings of the homestead
- General form and massing, including the roof
- Wood frame construction
- Circular saw-cut wood boards placed vertically
- Original/early wood doors and windows, including original/early metal hinges
- Brick pier foundation

Interior:

- Central section with large open space
- Horse stalls
- Interconnected sections to allow for the passage of hay
- Primary use of wood

25 Building Permit Application, Permit Number 2017-61773, Santa Clara County Department of Planning and Development.

Image 6 - (top) Northeast (left) and northwest (right) facades of the White Barn.

Image 7 - (middle) Southwest (left) and southeast (right) facades of the White Barn.

Image 8 - (bottom) Interior hay loft.

EVALUATION OF SIGNIFICANCE

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Resources can be listed in the California Register through a number of methods. State Historical Landmarks and National Register-listed properties are automatically listed in the California Register. Properties can also be nominated to the California Register by local governments, private organizations, or citizens. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places.

In order for a property to be eligible for listing in the California Register, it must be found significant under one or more of the following criteria.

> *Criterion 1 (Events)*: Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
>
> *Criterion 2 (Persons)*: Resources that are associated with the lives of persons important to local, California, or national history.
>
> *Criterion 3 (Architecture)*: Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.
>
> *Criterion 4 (Information Potential)*: Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

The following section preliminarily examines the eligibility of the White Barn for listing in the California Register.

Criterion 1 (Events)

The White Barn at Deer Hollow Farm is likely significant and eligible for listing in the California Register under Criterion 1 as part of a collection of buildings that are associated with the continued agricultural development of Santa Clara County. While the subject property as a whole has not been fully surveyed, it appears as though the White Barn would contribute to a larger historic district, site, or cultural landscape. The period of significance under Criterion 1 is from 1853 to 1975, while the property was in private ownership as a homestead and farm.

Criterion 2 (Persons)

The White Barn at Deer Hollow Farm is likely significant and eligible for listing in the California Register under Criterion 2 as part of a collection of buildings that are associated with early American pioneers to California, Theodore Franklin and George Henry Grant. While the farm as a whole has not been fully surveyed, it appears as though the White barn would contribute to a larger historic district, site., or cultural landscape. The period of significance under Criterion 2 is from 1853 to 1937, when the Grant brothers first bought the land to when they sold it.

Criterion 3 (Architecture)

The White Barn at Deer Hollow Farm is potentially significant and eligible for listing in the California Register under Criterion 3 as part of a collection of buildings that embody the distinctive characteristics of a type, period, region, or method of construction relating to its agriculture use. Additional research regarding the other buildings, structures, and landscape features would be required to make this determination.

Criterion 4 (Information Potential)

Evaluation of the White Barn under Criterion 4 (Information Potential) is beyond the scope of this report. This criterion is generally applied to sites which may provide archeological resources. Preliminarily, it does not appear as though the White Barn answers research questions, or is an example of a rare construction type.

INTEGRITY

In order to qualify for listing in any local, state, or national historic register, a property or landscape must possess significance under at least one evaluative criterion as described above and retain integrity. Integrity is defined by the California Office of Historic Preservation as "the authenticity of an historical resource's physical identity by the survival of certain characteristics that existing during the resource's period of significance," or more simply defined as "the ability of a property to convey its significance."[26] Page & Turnbull used established integrity standards outlined by the National Register Bulletin: How to Apply the National Register Criteria for Evaluation. Seven variables, or aspects, that define integrity are used to evaluate a resource's integrity—location, setting, design, materials, workmanship, feeling, and association. A property must stand up under most or all of these aspects in order to retain overall integrity. If a property does not retain integrity, it can no longer convey its significance and is therefore not eligible for listing in local, state, or national registers.

The seven aspects that define integrity are defined as follows:

> *Location* is the place where the historic property was constructed or the place where the historic event occurred.
>
> *Setting* addresses the physical environment of the historic property inclusive of the landscape and spatial relationships of the building(s).
>
> *Design* is the combination of elements that create the form, plan, space, structure, and style of the property.
>
> *Materials* refer to the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form the historic property.
>
> *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
>
> *Feeling* is the property's expression of the aesthetic or historic sense of a particular period of time.
>
> *Association* is the direct link between an important historic event or person and the historic property.

The White Barn retains integrity of location as it does not appear to have been moved since the period of significance. It retains integrity of setting because the surrounding area still remains agricultural and rural. The subject building retains integrity of design, materials, and workmanship as the only modification that has happened to the building since the end of the period of significance is the renovation of the Milk Room. While vinyl windows and additional new materials were inserted into the space, they do not diminish the building's overall design, materials, or workmanship. The renovation also helps to maintain the barn as a working support structure for the homestead. The White Barn's dominant material is still wood, and the physical evidence of craft is still highly visible.

As the White Barn retains integrity of location, setting, design, materials, and workmanship, it is able to retain integrity of feeling – the building has maintained its historic and aesthetic sense of a barn from the identified period of significance of 1853 to 1975. The White Barn also retains integrity of association because the building is still in use as a barn for a working homestead.

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26 California Office of Historic Preservation, *Technical Assistance Series #7: How to Nominate a Resource to the California Register of Historical Resources* (Sacramento: California Office of State Publishing, 4 September 2001) 11.

CONDITIONS ASSESSMENT

CONDITIONS ASSESSMENT METHODOLOGY

The White Barn was visually surveyed on November 9, 2017. Weather was cloudy with an intermittent drizzle, approximately 60 degrees Fahrenheit. Visual observation took place from the ground level on the exterior and interior, and via a ladder stair on the interior into the hay loft. Photographs were taken of remaining architectural features throughout the exterior and interior of the building, and existing conditions data were recorded in field drawings and notes. No destructive testing, probing, or hazardous materials testing, including for lead paint or asbestos, was conducted.

Structural observations and methodology are indicated in the "Structural Observations" section.

Additional data collection regarding the state of the Electrical, Mechanical, Fire Life Safety, and other related Safety information was not conducted; however, it can be noted that lights all appeared to be in working order as was the plumbing in the milking room.

CONDITIONS DEFINITIONS

The building elements' conditions are described on a good, fair, poor rating system, defined as:

Good (G)

The building element / feature is intact, structurally sound, and performing its intended purpose. The component needs no repair or rehabilitation, but only routine or preventative maintenance.

Fair (F)

The building element / feature is in fair condition if either of the following conditions is present:

a. There are early signs of wear, failure, or deterioration though the component and its features are generally structurally sound and performing their intended purpose; or
b. There is failure of a feature or component.

Poor (P)

The building element / feature is in poor condition if any of the following conditions is present:

a. The features are no longer performing their intended purpose; or
b. Features are missing; or
c. Deterioration or damage affects more than 25% of the component; or
d. The component or features show signs of imminent failure or breakdown.

Unknown (U)

The assembly or feature was not accessible for assessment or not enough information is available to make an evaluation.

SUMMARY OF EXISTING CONDITIONS

A summary of the existing conditions of the White Barn at Deer Hollow Farm follows. Conditions are organized by material and location, with a focus on character-defining features, which are listed in the earlier Physical Description section.

Overall the barn is in fair, serviceable condition. Because it is still an actively used building, the barn enjoys regular maintenance for many of its materials. Owing to this effort, many of the conditions discussed below are not life-threatening nor deeply problematic issues for the building. Barns are by nature not weather-tight structures, and the conditions evident do not (in large part) hamper the continued use of the structure as a working barn. As will be discussed in the treatment section of this report, there are many alternatives for treatment based on the existing conditions because, for the most part, the building is currently in decent, serviceable shape.

Code Deficiencies

Currently the farm site is handicap accessible, but the White Barn is not.

The existing wood stair in the barn that provides access from the ground to the hay loft does not meet current building code requirements. The following is a code analysis related to the stair:

> Per 2016 California Building Code Chapter 3 – Use and Occupancy Classifications, subsection 312, the White Barn is Classified as a Utility and Miscellaneous Group U (Group U). Per 2016 California Building Section 1011 – STAIRWAYS: subsection 1011.16 -Ladders, "Permanent ladders shall not serve as part of the means of egress from occupied spaces within a building. Permanent Ladders shall be permitted to provide access to the following areas": Item 4 "Elevated levels in Group U not open to the general public." And Item 6 "Ladders shall be constructed in accordance with Section 304.3 of the California Mechanical Code."

The current wood stair assembly does not comply with current building code for a stair and does not comply with the current building code for a ladder.

General Conditions

The barn sags toward the northwest corner.

Dangerous conditions exist at the barn, notably open holes through floors, trip hazards, and fall hazards. Nails from the roofing protrude through the skip sheathing on the second level. The low ceiling height at the sides of the barn put these nails at head height. Areas of the hay loft floor are open, with insufficient or no guard rails. Some openings are covered with unattached door leafs. Irregular or unexpected steps around the barn are unmarked.

Termite or post beetle galleries and tunnels were observed in wood materials throughout the site. While not unusual for California, borings can cause significant damage to wood elements if left untreated. In the extreme, buildings can become structurally unsound due to insect infestation. Most vulnerable to damage is wood that is wet, unpainted, or directly in contact with the ground; these conditions are present in the White Barn. Compounding the issue, insects are a food source for other animals that can impart damage to buildings, including woodpeckers (discussed below).

Holes present in the roof structure appear to also be caused by termites or another boring pest, though some holes look to possibly be the work of woodpeckers that would be attempting to eat the insects boring into the wood.

Birds nests are also evident in the roof structure. According to Deer Hollow farm staff, the nests are not always occupied, and typically house a predatory bird, which helps keep other farm pests away. Cats on the property likewise work to mitigate the rodent pest problem. While the presence of the rodents was not evident, rodents can harbor diseases dangerous to humans. Further, rodents can potentially cause extensive damage to the building, including disruption of and damage to electrical or plumbing systems.

Material Conditions

Brick Foundation Piers: Fair to Poor

The common red brick used for the pier foundations are in fair to poor condition. Some show signs of minor efflorescence. Nicks, gouges or broken corners are common. Mortar is generally intact.

Image 9 - (top left) Brick Piers are low and surrounded by straw and other organic material.

Image 10 - (top right) Exposed edges of the bricks on the exterior piers are typically chipped or broken.

Image 11 - Minor efflorescence is evident on some piers.

Wood Exterior Siding: Fair

The circular-sawn siding is in fair to poor condition. Siding that terminates at grade is in the worst condition, owing to its proximity to the ground. Breakage, rot, and damage are apparent. In some locations, boards are split and partially unanchored or bowing. In multiple locations around the exterior, boards have been patched in or modified in some manner to close up old doorways or change windows or opening sizes.

The screened window opening in the north façade is in good condition, with the exception of the shake cover, which is in poor condition. The shakes are detaching from the awning roof over the window and exhibit moss growth at their edges.

The replacement aluminum window in the north façade is not original and has not been assessed.

Paint remains well-adhered to boards, with minimal delamination. It appears the barn has not been regularly repainted or maintained much with respect to the coating.

Image 12 - (top left) Irregular sized gaps and proud boards where anchors are loose are typical.

Image 13 - (top right) The north facade opening is in good condition, with the exception of its shake awning roof.

Image 14 - (left) Raking sunlight highlights the loose attachment of boards. Added narrow boards and modified siding is also apparent in this image.

Wood Frame: Fair to Poor

The primary wood structure of the White Barn is largely intact, though there is much evidence of modification over time. Posts within the main barn space have been moved, which may be contributing to the sag at the northwest corner of the building. Some posts are split, requiring stabilization, and others have been cut and patched.

Sill plates and posts around the building perimeter show evidence of termite damage (carpenter ants are the other possible culprit) and post beetle holes are evident in some locations. The northeast corner post is especially brittle with evidence of internal damage up to at least 7' on the post. See the structural condition assessment for information about the structural integrity of the wood frame.

Image 15 - The post at the northeast corner exhibits biological growth, wood rot, and material loss due to damage and insect infestation.

Image 16 - Termite holes are visible in the northeast post above 6 feet.

Image 17 - (top left) Insect infestation and wood rot are evident at sill plates and exterior perimeter posts throughout the structure.

Image 18 - (top right) One line of interior posts has been moved from their original location; the former post holes are visible in the beams. Further, much of the structural frame has been modified in some way, have been moved, boards or reinforcement bracing added, or holes made.

Image 19 - (left) Posts throughout the main barn space are notched with broken wood blocks used to shim the beams above. The date of this modification is unknown.

Wood Floors: Fair

Wood plank flooring is present in the south room (currently storage, previously horse stalls) and on the second level hay loft. Dimensions of boards and the gaps between them vary. The south room floor retains its handmade nails, though many boards are loose or can be easily moved aside (allowing animal entry according to the Farm staff). Animal droppings are evident under the south room floor.

The hay loft floor through the center bay of the barn is secured only at the end points of each board. Some nails are likewise loose, missing, or insufficient to tack down the board. Wood boards themselves are worn, however, they are in serviceable condition and retain structural integrity enough to serve as a flooring material in both locations.

Image 20 - (above) The hay loft floor. The cut-out section in this photo covers the hay trough for the horse stall below. Boards otherwise extend from the edge of the center bay to the opening in the floor here covered by doors.

Image 21 - (top right) The doors covering the hay floor opening from below.

Image 22 - (right) The tongue-and-groove plank flooring in the horse stalls. Below it, in the foreground of the photo is the plank floor which is covers the passage floor in the horse stall area.

Wood Doors: Fair

Sliding wood barn doors are in fair condition. Those that remain on the building are operable with their original hardware intact. The southeast door (into the storage area) is missing three bolts which support the door's track. The remaining thru-bolts secure the track to the barn exterior; those lost only bolted into the exterior siding.

Hay loft doors on the east façade do not align, suggesting the instability of the north leaf's hinges.

Most doors retain historic hinges or other steel hardware. Where hinges have been replaced, the new installations do not match the existing hinges.

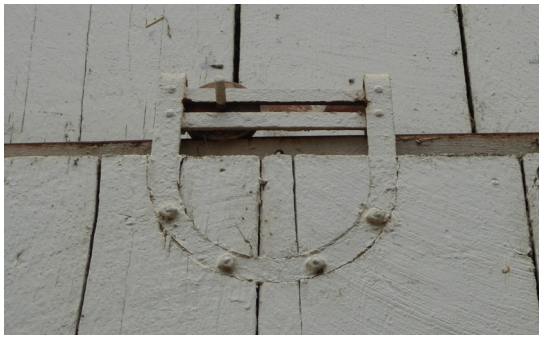


Image 23 - (clockwise, from top left) Sliding barn door into the horse stall area. The panel and operable elements are in good condition.

Image 24 - (top right) Exterior view of the paired, oversize barn doors on the east facade.

Image 25 - (right) Interior view of the paired oversize barn doors.

Image 26 - (left, below) Hardware of the sliding barn door

Image 27 - (left, above) Missing thru-bolts on the sliding door track.

Wood Interior Features: Good to Fair

The narrow, vertical stair is in fair condition. Its deficiencies are its narrow size and steep pitch; head height is a concern. Treads are worn, but not unstable. Base structural posts are settled directly in the earth, and show signs of insect infiltration (insect damage is worst at perimeter locations, and not here at the stair, but it is present).

The south room's horse stalls are in good condition. Though this area now serves as storage, the stall dividers and hay holders remain in good condition. The chutes from the hay loft and screen "windows" into the main barn area are intact and in good condition.

The goat pen is in fair condition. Much of the material used to construct the pen appears to have been salvaged from other areas of the barn and farm and has been modified over time.

The milking area has been recently improved, with the installation of a concrete drainage floor and solid walls to enclose the space from animal intrusion. New work sinks, associated plumbing, and refrigerators have been installed in the space. The condition of the materials in this area is good, and as such, the area has not been heavily considered with this report. The storage cage within the main barn bay likewise is in good condition and looks to be a recent installation.

Image 28 - Interior stair to hay loft.

Image 29 - Horse stall in south room.

Wood Rafters: Good to Fair

The wood rafters are in good to fair condition. Good condition rafters are intact with minimal visible evidence of rot or other deterioration. Rafters were not probed or tested due to access. Rafters are notched and rest on the top plate of the exterior walls.

The rafters in fair condition are broken at the tail outside the exterior walls or show heavy deterioration of the tail end only. Rafter ends are most deteriorated where the gutter does not extend.

Image 30 - (top left) The notch in the rafter tail at the top plate.

Image 31 - (above) Deteriorated or broken ends of rafter tails are visible behind the gutter.

Image 32 - (left) Close-up detail of one deteriorated rafter tail. Also visible is biological growth at the end of hte gutter indicated leaks in this gutter end.

Wood Skip Sheathing: Good to Fair

The wood purlins that form the skip sheathing under the sheet metal roof are in good to fair condition. Fair condition boards exhibit insect damage throughout the boards, but they still support the roof above without cracks or splits in the wood.

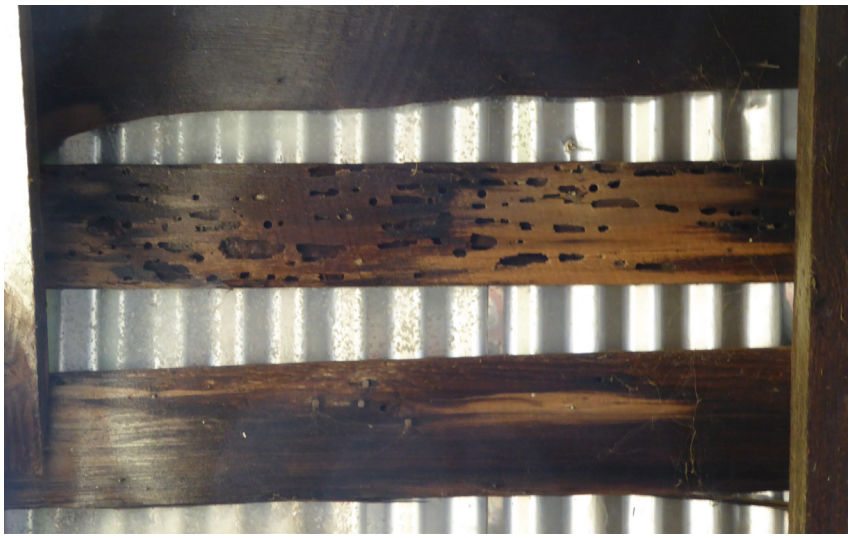


Image 33 - Evidence of insect infestation in the skip sheathing.

Image 34 - The pattern of sheathing in the roof known as "skip sheathing."

Corrugated Sheet Metal Roofing: Fair

The corrugated, galvanized sheet metal roofing panels are in fair condition. They are performing as expected with no evidence of detrimental leaks on to the skip sheathing or rafters, even with the presence of penetrating holes through the panels. The panels themselves also show some evidence of "white rust" or oxidation of the galvanic zinc coating of the sheet steel. White rust occurs where water is able to dwell on the galvanizing, causing an oxidizing reaction. Edges of sheet metal where the overlap of the panels occurs exhibits this condition, suggesting that no gap material is between the panels and each sits directly on the other; water infiltrates this seam, is unable to dry, and remains, causing the reaction.

Image 35 - Oxidation of the zinc galvanizing on the sheeting.

Image 36 - Nails protrude beyond the sheeting into the headspace of the rafters.

Image 37 - Daylight is visible through the sheeting in some areas, however farm staff indicate that there are no leaks during rains.

STRUCTURAL OBSERVATIONS

STRUCTURAL CODE CONSIDERATIONS

A preliminary seismic and wind analysis of the White Barn building structure was completed based on known structural information. This analysis was based on the lateral load regulations of Section 8-706 of the 2016 California Historical Building Code including Tables 8-8-A and 8-8-B, allowable capacities for existing materials. The seismic and wind lateral force level for evaluation of historic buildings required by this code section is equivalent to approximately 75% of the 2016 California Building Code (CBC) seismic and wind force levels for new buildings, including consideration of near site effects, i.e., increased seismic loads for sites located in close proximity to known active faults.

Even if a full seismic or wind upgrade would not otherwise be triggered or required, our preliminary analysis indicated that there are several structural deficiencies that would be prudent to address if the building is proposed to continue to be occupied in the future.

A preliminary gravity load analysis of the existing roof structure(s) was completed using the 2016 CBC design roof live loads. In addition, the existing second (loft) level framing was analyzed in order to determine its existing live load carrying capacity to assist in guiding future reuse options for the loft areas.

STRUCTURAL CONDITIONS ASSESSMENT

The structural deficiencies that were noted on our initial site visit of November 9, 2017 and our subsequent preliminary structural analyses outlined above, are summarized below. The preliminary proposed strengthening to address these deficiencies is covered in the Structural Recommendations section.

Roof and Floor Diaphragm Capacities

The existing 1x roof skip sheathing does not have adequate capacity to transfer the code required wind or seismic forces to the interior and exterior (shear) walls or to brace the walls out-of-plane. In addition, the connections of the roof and floor diaphragms to the interior and exterior (shear) walls as well as to gravity support members are deficient.

Existing Shear Wall Capacities

A detailed survey of the existing interior and exterior wall sheathing/vertical siding and nailing was not possible during this phase. However, based on our preliminary analysis, the existing interior and exterior wood sheathing/vertical siding, in general, does not have adequate capacity to resist the code-required wind or seismic forces, which will result in moderate to significant damage to the building in a moderate to severe earthquake in close proximity to the site. Also, the walls are not connected (bolted) to foundations to transfer the code required wind or seismic forces to the foundations/grade.

Existing Foundations

Based on our site observations, the assumed existing site soil conditions, and our experience with similar foundation systems, the existing interior and exterior isolated brick pier foundations, which exist primarily only under the existing interior and exterior vertical posts, appear to have performed marginally well over the life of the building. However, the brick piers do not have adequate capacity to resist their tributary dead and code-required load along with the code required lateral (wind or seismic) loads without replacement or additional strengthening. The existing interior and exterior brick pier post foundations will require replacement. In addition, new reinforced concrete stem walls and foundations under all exterior walls are recommended.

Second Floor Loft Live Load Capacities

Based on our preliminary analysis of the live load carrying capacity of the existing loft floors in the three separate loft areas, it is estimated that the loft floors are capable of supporting live loads on the order of approximately 30 to 40 pounds per square foot (PSF), in general, but would be limited to a live load capacity of only approximately 20 PSF, based on the live load carrying capacity of the existing 6x6 support beams, and assuming that these beams are not strengthened up to the 30 to 40 PSF live load capacity of the remainder of the loft framing. This would limit the potential reuse options of the loft spaces.

Additional Noted Deficiencies

In addition to the deficiencies noted above, the following deficiencies and maintenance issues were noted but not documented in detail:

- Portions of the existing roof rafter tails that are exposed to weather have dry rot damage and will need to be repaired or replaced.
- No interior or edge blocking was noted to exist between roof and floor framing members at all supports including over interior and exterior wall top plates, at the intersections of the high and low roof areas, at the roof eaves, and over any interior and exterior support beams at the loft floor areas.
- Lack of appropriate wood-earth separation at most interior and exterior vertical siding and other wood vertical load carrying members (posts and wall studs) at grade level has caused dry rot damage to some areas of the exterior and interior vertical siding and horizontal blocking/sill plates near grade as well as other vertical load carrying members (post and wall studs) at the areas of wood-earth contact. This includes the areas of existing floor joists and wood decking that appear to be supported directly on grade at various interior floor locations at the ground floor that were not accessible for a more detailed review of their condition at the time of our site visit.
- Damage (appears to be primarily insect damage) and deterioration to some existing 1x roof skip sheathing boards at both the high and low roof areas.

PART II. TREATMENT AND WORK RECOMMENDATIONS

SUMMARY OF RECOMMENDATIONS

The treatment guidelines which follow offer a multi-faceted approach to the material repair of the character-defining features at the White Barn, complete with multiple alternatives. The Historic Preservation Objectives define the directive or goals of the treatments suggested. The Secretary of the Interior's Standards for the Treatment of Historic Properties provide the guidelines for these treatments. The treatments themselves then follow and include alternates for different potential objectives.

HISTORIC PRESERVATION OBJECTIVES

Historic Preservation Objectives help define the end goals of a repair project for the White Barn structure. After conversations with the Midpeninsula Open Space District and Deer Hollow Farm staff, it is Page & Turnbull's understanding that the White Barn is intended to retain its current uses and functions after any repair work. The goals are to first stabilize the structure (identified as "Required Stabilization Measure") and any additional preservation-indicated solutions are considered "add-ons" or alternatives to the stabilization work (identified as "Recommended Preservation Measure").

The objectives outlined below are understood as priorities for the barn:

1. Mitigate hazardous and structurally unsound conditions.
2. Maintain the barn as a private use structure, with existing public access into ground floor to remain.
3. Stabilize materials for continued service

SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

The Secretary of the Interior's Standards are the benchmark by which Federal agencies and many local government bodies evaluate rehabilitative work on historic properties. The Standards are a useful analytic tool for understanding and describing the potential impacts of substantial changes to historic resources. Compliance with the Standards does not determine whether a project would cause a substantial adverse change in the significance of an historic resource. Rather, projects that comply with the Standards benefit from a regulatory presumption that they would have a less-than-significant adverse impact on an historic resource. [1]

The Standards provide guidelines for four treatments of historic properties: Preservation, Rehabilitation, Restoration, and Reconstruction:

> ***Preservation:*** Requires retention of the greatest amount of historic fabric, along with the building's historic form, features, and detailing as they have evolved over time.
>
> ***Rehabilitation:*** Acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character.
>
> ***Restoration:*** Allow for the depiction of a building at a particular time in its history by preserving materials

1 CEQA Guidelines subsection 15064.5(b)(3).

from the period of significance and removing materials from other periods.

Reconstruction: Establish a limited framework for re-creating a vanished or non-surviving building with new materials, primarily for interpretive purposes.

Guideline Indication

Each of these four options has been considered with regard to the existing fabric at the White Barn. Given the defined objectives for the structure, ***Rehabilitation*** is the most appropriate guideline. Under Rehabilitation, existing materials are to be preserved as much as is feasible given the necessary upgrades required for structural and life safety needs.

It should be noted that the Standards typically emphasize the relative importance of the exterior structure compared to the interior. Certain structural upgrades, for example, are required at the White Barn, which will change the appearance of the barn's exterior and interior. In situations like this, the priority is to make the exterior appear as preserved as possible. The intention is to keep the improvements "under the hood" so to speak, and to maintain the character of the barn as much as possible.

Standards for Rehabilitation

The following ten standards should be used to guide any project:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in

the future, the essential form and integrity of the historic property and its environment would be unimpaired.

REQUIREMENTS FOR WORK

BUILDING CODES & JURISDICTION

Any work should be evaluated with respect to conformance with applicable state and municipal codes and standards required by law. All work to the building must comply with the 2016 *California Building Code (CBC)* and *Title 24 Part 8 of the California Code of Regulations*. As a qualified historic building, the White Barn is eligible to take advantage of the 2016 *California Historical Building Code (CHBC)* with regard to code compliance. The CHBC is intended to be used by any agency with jurisdiction when reviewing code compliance for a qualified historic building in order to insure its preservation. As stated in the CHBC Section 8-101.2:

> The CHBC is intended to provide solutions for the preservation of qualified historical buildings or properties, to promote sustainability, to provide access for persons with disabilities, to provide a cost-effective approach to preservation, and to provide for reasonable safety of the occupants or users. The CHBC requires enforcing agencies to accept solutions that are reasonably equivalent to the regular code (as defined in Chapter 8-2) when dealing with qualified historical buildings or properties.

The permitting authority for any proposed alterations would be the City of Mountain View, CA.

ADDITIONAL GUIDELINES

The National Park Service, which is directed by the Secretary of the Interior, has created a number of useful documents to assist with application of the Standards to historic preservation work. Preservation Briefs and Technical Notes are two of these types of useful tools. Applicable documents to the White Barn include:

Preservation Brief 20: The Preservation of Historic Barns

Preservation Brief 36: Protecting Cultural Landscapes

Protecting Woodwork Against Decay Using Borate Preservatives. Ron Sheetz and Charles Fisher. 1993.

WORK RECOMMENDATIONS AND ALTERNATIVES

This section of the HSR presents a plan that includes a list of tasks and solutions for the repair of the historic features that remain at the White Barn at Deer Hollow Farm.[2] Recommendations are categorized by scope, location and/or material. Required Stabilization Measures are listed separately from Recommended Preservation Measures for clarity. Regarding the brick piers (comprising the "foundation" of the barn), one design alternative has been presented which may be utilized as an alternative to the Required Stabilization Measure in that case.

These treatments are not meant as a substitute for historic preservation-related specifications during construction or for maintenance strategies after the project is completed. Refer to the Conditions Assessment and Physical Description in Part 1 for more details about the material features identified, including which features are character-defining.

2 Structural Recommendations are given in line within this section, but are also available as a standalone report in the Appendix.

ACCESSIBILITY & EGRESS

Guideline: Life & Fire Safety egress must be considered in continued use. Accessibility pursuant to the Americans with Disabilities Act should likewise be evaluated in accordance with the continued use goals of the barn.

Required Stabilization Measure:

- Make accessible the interior ground floor spaces: lower the threshold at the main entry door. Ensure that the path of travel into milking area and other public areas is ADA accessible.
- Modify the existing wood stair so that it complies with the requirements of a ladder per Section 304.3 of the California Mechanical Code. While we have not measured the distance between elements, we believe that the treads are within the requirements of Section 304.3 and that the only modifications required are to provide side railings that extend above the platform level. In addition, we recommend that a chain with a sign that indicates "NOT FOR PUBLIC ACCESS" remains at the bottom of the stair/ladder and that a guardrail is provide at the sides of the platform opening.
- Provide more obvious and numerous signage for areas of hazards, including stair ladder access, floor openings, and overhead dangers in the hay loft.
- Evaluate the code requirements for sprinklering or egress exits for the barn use.

GENERAL SITE & ACTIVE HAZARDS

Guideline: Dangerous locations should be mitigated as soon as possible; those that are not should exhibit caution signage to alert all users.

The site surrounding the White Barn should actively drain away from the structure to prevent unnecessary deterioration to the wood construction. Gutters and downspouts assist in diverting water away from the building.

Required Stabilization Measure:

- Clean and repair existing gutters along the south façade and extend the north façade gutter and drainpipe.
    - *Recommended Preservation Measure:* Install gutters and drainpipes in new areas to direct water away from the building and livestock yards. New installations, if no evidence remains of a previous gutter in that location, should differ from the historic.
- Provide overall site and foundation drainage to keep site water away from the existing or new foundations and to prevent infiltration and accumulation of surface water near the foundations.
- Provide more obvious and numerous signage for areas of hazards, including stair ladder access, floor openings, and overhead dangers in the hay loft.
- Verify electrical components are protected from weather and pests. Replace as necessary to mitigate fire hazards.

INSECT & RODENT INFILTRATION

Guideline: Boring insects damage wood by eating the cellulose fibers, leaving behind open space or brittle fibers. Insects should be killed and their reintroduction prevented after repair or replacement of the damaged wood. A borate solution impregnated in the wood is common and a typical tactic in historic structures; regular treatments for termites or post beetles is also acceptable provided the treatment does not itself damage historic wood material. Locations where wood

meets earth should be mitigated as these are typical points of intrusion.

Rodents likewise have found a home within the barn, and certain preventative measures have already been taken by barn staff to eradicate them. Use of a cat is a preferred method among preservationists. Any access points in the storage areas can be further barred using removable materials to block entry.

Required Stabilization Measure:

- Fumigate the barn so as to kill all insect infiltrations within the wood members of the structure. Retain an insect removal professional to confirm the extent of the infestation throughout the building. Use a method which does not impregnate the historic wood with residual chemicals nor affect the livestock or hay stores (borate-based solutions are acceptable and typical as a long-term deterrent).

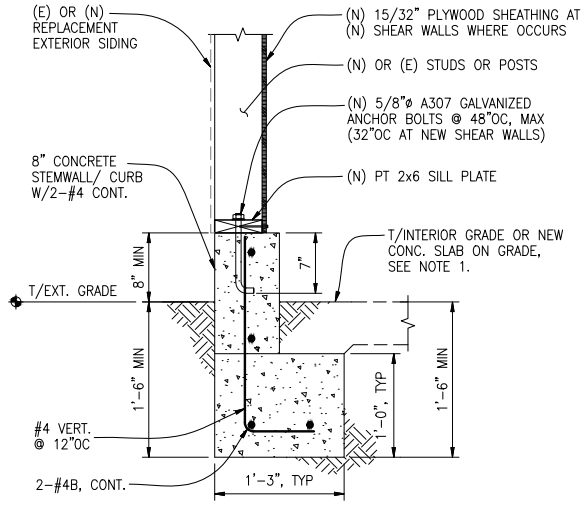
- Remove rat droppings or any other pest feces. Sanitize and repair areas following required governmental regulations and best practices for historic buildings.

BRICK

Guideline: For the White Barn, the use of the brick piers as the foundation footings is not a structurally safe condition, though they are character-defining features. Brick piers should be replaced by alternative structural footings in accordance with the structural engineer's recommendation.

Required Stabilization Measure:

- Provide new reinforced concrete stem walls and foundations under all of the exterior walls (and any interior walls, where applicable) (See Figure 4, following) as well as new reinforced concrete pad footings under all interior support posts (See Figure 5, following), except where previously improved at the perimeter of



NOTE:

1. FOR ANY NEW CONCRETE SLABS ON GRADE, WHERE THEY OCCUR, ASSUME A 5" THICK SLAB WITH #3@12"OC EACH WAY MIDDEPTH, WITH DOWELS TO MATCH INTO NEW STEMWALLS AT ALL SLAB EDGES.

FIGURE 4 - TYPICAL NEW CONCRETE PERIMETER FOUNDATION

SCALE: 1"=1'-0"

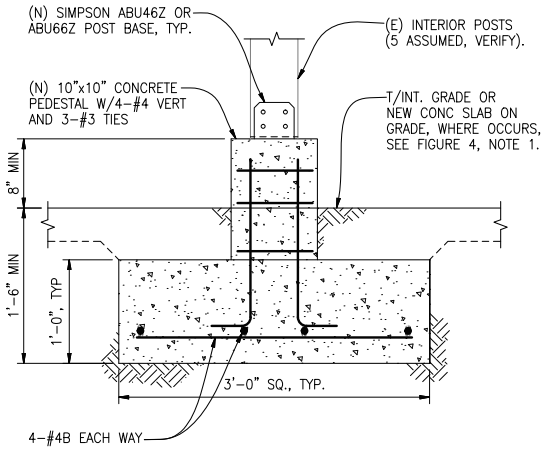


FIGURE 5 - TYPICAL NEW CONCRETE INTERIOR PAD FOUNDATION

SCALE: 1"=1'-0"

the existing Milk Room. All new foundations should comply with the minimum requirements of the 2016 California Building Code.

- *Recommended Preservation Measure:* Provide new reinforced concrete stem walls and foundations under all of the exterior walls (and any interior walls, where applicable) (See Figure 4 above), except where previously improved at the perimeter of the existing Milk Room. Step the new stem wall appropriately at the edge footings to accommodate a brick veneer using the historic bricks. Replace brick footings in the interior of the barn with a custom galvanized steel post base bracket and attach as shown in the sketch below (Figure 6). Historic brick footing pedestals should be reconstructed around the post base bracket, as the brick pedestals and footings are a character-defining feature of the structure. All new foundations should comply with the minimum requirements of the 2016 California Building Code.

- *Design Alternative to Required Stabilization Measure above*: Install concrete slab under entire structure (except where existing) with footings and concrete stem wall as described above. Slab to be sloped to the exterior door openings to eliminate the need for interior floor drains.

  - *Recommended Preservation Measure (for Design Alternative)*: Historic bricks may be used as veneer over concrete at historic footing locations along exterior and at interior, or with galvanized steel post base bracket as designed in sketch.

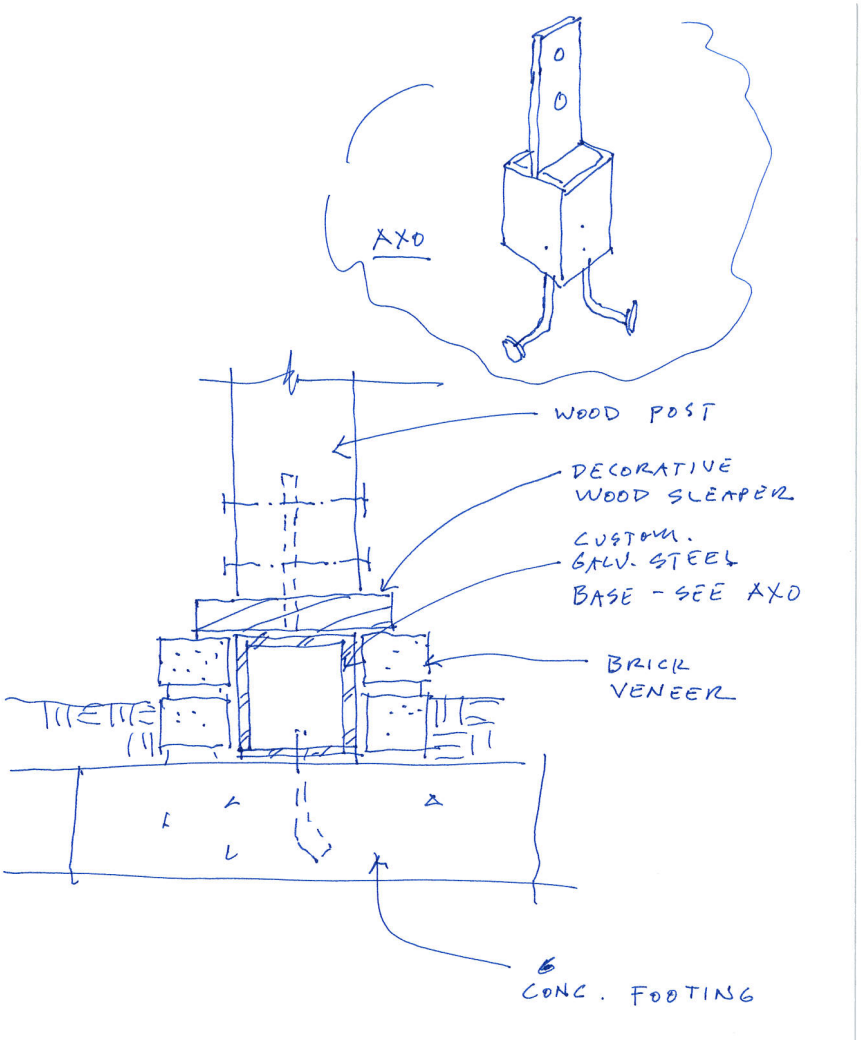


FIGURE 6 - GALVANIZED BRACE WITH BRICK VENEER

WOOD

Guideline: Heavily deteriorated wood that is not reusable within the scope of the anticipated projects should be replaced with wood that matches in species as the original wood, especially at locations of Dutchman repairs. Boards should match in size, finish texture, and color, emulating the circular saw marks as appropriate. Wood filler may be used where only minimal degradation is present. Unused anchors or previous attachment points should be removed and holes filled. Any new hardware to be used (nails or door hardware) should match historic if it is used on a historic item; any new installations (e.g. floorboards over previously open areas) should be differentiated.

Required Stabilization Measure:

AT GRADE

- Provide proper, code required, wood-earth separation between the bases of the existing interior and exterior vertical wood support posts and the existing or new interior and exterior wall wooden sill plates and vertical siding and the adjacent soil grades (See Figures 4 and 5).

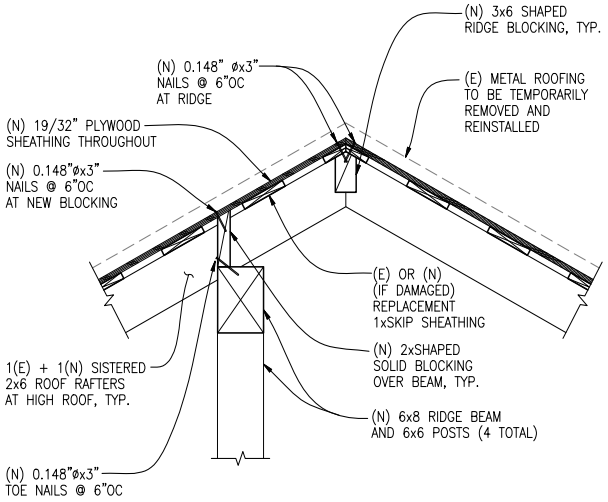


FIGURE 1 - HIGH ROOF FRAMING/ DIAPHRAGM STRENGTHENING

SCALE: 1"=1'-0"

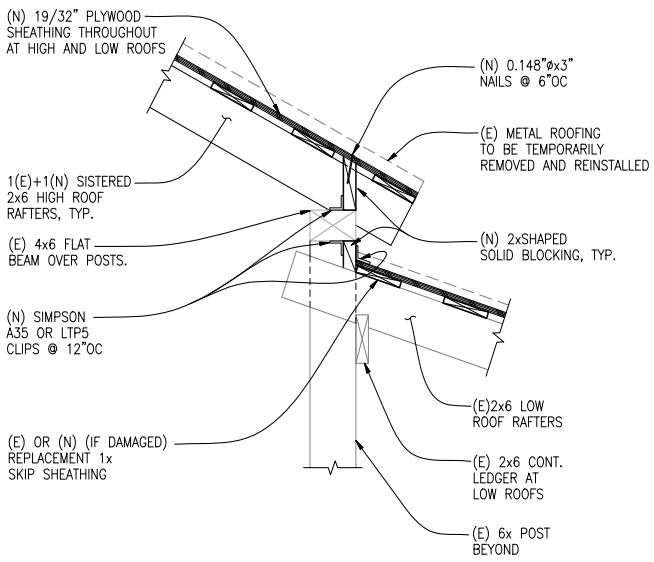
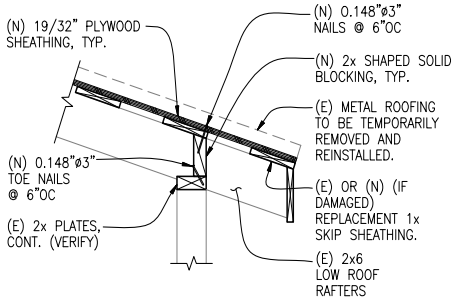
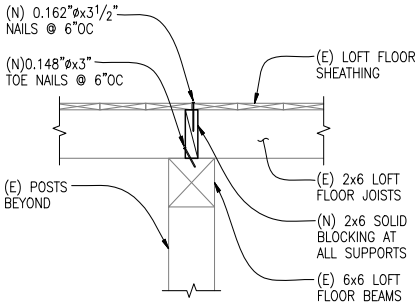


FIGURE 2 - HIGH TO LOW ROOF DIAPHRAGM CONNECTION

SCALE: 1"=1'-0"



LOW ROOF EDGE CONDITION



LOFT INTERIOR CONDITION (EXTERIOR, SIMILAR)

FIGURE 3 - ADDED BLOCKING AT SUPPORT CONDITIONS

SCALE: 1"=1'-0"

STRUCTURE

- Strengthen existing roof framing at the innermost higher roof area by sistering (doubling up) new 2x6 rafters to the existing 2x6 @ 30" o.c. roof rafters at all roof rafters and by improving the connections of all existing and new roof rafters to their supports. Also, provide a new 6x8 ridge beam to span between 2 new interior and 2 new exterior 6x6 vertical posts which align with the similar posts below, under the interior loft area floor (See Figure 1).
    - *Recommended Preservation Measure*: Strengthen existing roof framing at the innermost higher roof area by sistering (doubling up) new 2x6 rafters to the existing 2x6 @ 30" o.c. roof rafters at all roof rafters and by improving the connections of all existing and new roof rafters to their supports. Add crossing trusses on every third roof rafter, which eliminates the need for the new vertical posts.
- Improve roof diaphragm capacity with the addition of new 19/32-inch plywood sheathing throughout over the existing 1x skip sheathing at both the high and low roof areas. This will require temporary removal and reinstallation of the existing metal roofing as well as any damaged 1x roof skip sheathing over the entire roof. Improve roof diaphragm connections to the existing interior and exterior walls, including at the intersection of the high–to-low roof offset/stepped areas in the interior, by the addition of new plywood edge nailing to new 2x blocking over the walls and between all upper and lower roof rafters at the high-to-low roof offset/step and new Simpson galvanized steel framing clips or nailing to attach the blocking to the existing interior and exterior wall top plates or support beams and ledgers (See Figures 1, 2 and 3).
    - *Recommended Preservation Measure*: Install new plywood sheathing as noted. Retain reusable skip sheathing and corrugated roofing and reinstall.
- Provide additional Simpson galvanized steel framing clips or nailing to improve the connection of the existing loft floor sheathing diaphragms to new 2x blocking over interior and exterior walls and interior support beams (See Figure 3) and additional connections consisting of bolting of the new exterior wall foundation sill plates to the new foundations (see below) using 5/8" dia. x 7" embed galvanized threaded rod bolts at 48 inches on center (32 inches on center at new plywood shear walls) for the full length of the new exterior wall sill plates (See Figure 4).
- Although not currently specifically triggered or required by code due to any proposed change of use or occupancy, based on our preliminary analysis, the existing exterior vertical wood siding walls would not have adequate capacity to resist the code required wind or seismic loads, even if strengthened by providing new 2x4 vertical wood studs and new 3x4 horizontal blocking throughout and renailing the vertical siding to the new vertical wood studs and horizontal blocking. Therefore, new 2x4 or 2x6 stud at 16"o.c. and 15/32" plywood shear walls (4 total, one per exterior wall at approximately 10'-0" long each) or wood braced frames (4 total), are recommended to improve overall building seismic and wind performance (See Figure 4).

SIDING & INTERIOR WOODWORK, DOORS

- Reattach siding to structurally improved frame. Reuse nails where possible, solidly anchoring all boards in original locations. Where replacements are required, replace boards to match wood type, texture, color, and size.
- Re-secure shakes over awning at screened opening on the north façade. Remove moss growth.
- Replace or Dutchman repair deteriorated edges of boards near grade, where they remain exposed at new foundation walls.
- Prep, prime, and paint the wood exterior to improve weatherproofing and protection. Paint color and type should be determined by a paint color analysis, and selected in accordance with the project's preservation goals.

- Re-secure hay loft floor where loose.
- Remove doors over hay loft floor openings and replace with wood boards (boards should differentiate from the rest of the floor in some manner).
- Re-secure floor in south storage area (at former horse stalls); reuse historic nails.
- Install wire mesh under floor to prevent animal intrusion through gaps in flooring (but maintain historic gaps in flooring). *(Applicable only if the wood floor is selected to remain in lieu of a concrete slab)*
- Re-secure sliding barn doors where needed (replace missing bolts with cast bolts to match).
- Clean, prep, and paint all existing door hardware to prevent any further corrosion. Tighten all anchors and add reinforcing blocking where necessary.

ROOF RAFTERS

- Replace missing rafter tails and repair those exhibiting deterioration; sistered ends should not extend visually beyond the top plate of the exterior wall.
- Install bird netting or other mesh materials to prevent bird access and nesting in the barn rafters.

SHEET METAL

Guideline: The corrugated, galvanized sheet metal roof serves as the water barrier for the roof. It can develop steel rust, pinpoint holes, or "white rust." It requires periodic inspection to evaluate for areas of corrosion, damage, or deterioration requiring replacement. The existing roof is likely not original, though the original would be been similar in form and material.

Required Stabilization Measure:

- Remove any existing white rust. Insert gapping material where the sheets overlap to prevent water dwelling at these points of contact causing the white rust.

EXPECTED MAINTENANCE

A thorough maintenance plan should be created after repair projects to safeguard the barn's materials. These recommendations should not substitute for a complete maintenance plan.

However, part of the regular upkeep of the barn should at least include the following tasks for the long-term. Regular evaluation and mitigation can further protect the barn even in its current state, but certainly after any repair work is undertaken:

- Routinely inspect for signs of damage or water infiltration in the roof, especially after heavy storms or wind events.
- Regularly inspect for insect infestations.

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MAPS

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APPENDIX

Structural Report, DCI Engineers

Cost Estimate, JR Conkey & Associates

DCI ENGINEERS
www.dci-engineers.com
Washington
Oregon
California
Texas
Alaska
Colorado
Montana

DEER HOLLOW FARM WHITE BARN

STRUCTURAL CONDITIONS ASSESSMENT AND TREATMENT RECOMMENDATIONS

FINAL REPORT

White Barn Structural Code Considerations

A preliminary seismic and wind analysis of the White Barn building structure was completed based on known structural information. This analysis was based on the lateral load regulations of Section 8-706 of the 2016 California Historical Building Code including Tables 8-8-A and 8-8-B, allowable capacities for existing materials. The seismic and wind lateral force level for evaluation of historic buildings required by this code section is equivalent to approximately 75% of the 2016 California Building Code (CBC) seismic and wind force levels for new buildings, including consideration of near site effects, i.e., increased seismic loads for sites located in close proximity to known active faults.

Even if a full seismic or wind upgrade would not otherwise be triggered or required, our preliminary analysis indicated that there are several structural deficiencies that would be prudent to address if the building is proposed to continue to be occupied in the future.

A preliminary gravity load analysis of the existing roof structure(s) was completed using the 2016 CBC design roof live loads. In addition, the existing second (loft) level framing was analyzed in order to determine its existing live load carrying capacity to assist in guiding future reuse options for the loft areas.

White Barn Structural Conditions Assessment

The structural deficiencies noted, based on our initial site visit of November 9, 2017 and our subsequent preliminary structural analyses as outline above, are summarized below. The preliminary proposed strengthening to address these deficiencies is covered in the **Structural Recommendations** section.

Roof and Floor Diaphragm Capacities
The existing 1x roof skip sheathing does not have adequate capacity to transfer the code required wind or seismic forces to the interior and exterior (shear) walls or to brace the walls out-of-plane. In addition, the connections of the roof and floor diaphragms to the interior and exterior (shear) walls as well as to gravity support members are deficient.

Existing Shear Wall Capacities
A detailed survey of the existing interior and exterior wall sheathing/vertical siding and nailing was not possible during this phase. However, based on our preliminary analysis, the existing interior and exterior wood sheathing/vertical siding, in general, does not have

adequate capacity to resist the code required wind or seismic forces, which will result in moderate to significant damage to the building in a moderate to severe earthquake in close proximity to the site. Also, the walls are not connected (bolted) to foundations to transfer the code required wind or seismic forces to the foundations/grade.

Existing Foundations

Based on our site observations, the assumed existing site soil conditions, and our experience with similar foundation systems, the existing interior and exterior isolated brick pier foundations, which exist primarily only under the existing interior and exterior vertical posts, appear to have performed marginally well over the life of the building. However, the brick piers do not have adequate capacity to resist their tributary dead and code required live along with the code required lateral (wind or seismic) loads without replacement or additional strengthening. The existing interior and exterior brick pier post foundations will require replacement. In addition, new reinforced concrete stem walls and foundations under all exterior walls are recommended.

Second Floor Loft Live Load Capacities

Based on our preliminary analysis of the live load carrying capacity of the existing loft floors in the three separate loft areas, it is estimated that the loft floors are capable of supporting live loads on the order of approximately 30 to 40 PSF, in general, but would be limited to a live load capacity of only approximately 20 PSF, based on the live load carrying capacity of the existing 6x6 support beams, and assuming that these beams are not strengthened up to the 30 to 40 PSF live load capacity of the remainder of the loft framing. This would limit the potential reuse options of the loft spaces.

Additional Noted Deficiencies

In addition to the deficiencies noted above, the following deficiencies/maintenance issues were noted but not documented in detail:

- Portions of the existing roof rafter tails that are exposed to weather have dryrot damage and will need to be repaired or replaced.
- No interior or edge blocking was noted to exist between roof and floor framing members at all supports including over interior and exterior wall top plates, at the intersections of the high and low roof areas, at the roof eaves, and over any interior and exterior support beams at the loft floor areas.
- Lack of appropriate wood-earth separation at most interior and exterior vertical siding and other wood vertical load carrying members (posts and wall studs) at grade level has caused dryrot damage to some areas of the exterior and interior vertical siding and horizontal blocking/sill plates near grade as well as other vertical load carrying members (post and wall studs) at the areas of wood-earth contact. This includes the areas of existing floor joists and wood decking that appear to be supported directly on grade at various interior floor locations at the ground floor that were not accessible for a more detailed review of their condition at the time of our site visit.
- Damage (appears to be primarily bug damage) and deterioration to some existing 1x roof skip sheathing boards at both the high and low roof areas.

White Barn Structural Recommendations

General
Protect Foundations:

- Provide proper grading to direct site water, including roof runoff, away from existing or new foundations.
- Provide overall site and foundation drainage to keep site water away from the existing or new foundations and to prevent infiltration and accumulation of surface water near the foundations.
- Provide proper, code required, wood-earth separation between the bases of the existing interior and exterior vertical support posts and the existing or new interior and exterior wall sill plates and vertical siding and the adjacent soil grades (See Figures 4 and 5).

Structure
Roof Framing Strengthening

- Strengthen existing roof framing at the innermost higher roof area by sistering (doubling up) new 2x6 rafters to the existing 2x6 @ 30" o.c. roof rafters at all roof rafters and by improving the connections of all existing and new roof rafters to their supports. Also, provide a new 6x8 ridge beam to span between 2 new interior and 2 new exterior 6x6 vertical posts which align with the similar posts below, under the interior loft area floor (See Figure 1).

Roof Diaphragm Strengthening:

- Improve roof diaphragm capacity by the addition of new 19/32-inch plywood sheathing throughout over the existing 1x skip sheathing at both the high and low roof areas. This will require temporary removal and reinstallation of the existing metal roofing as well as any damaged 1x roof skip sheathing over the entire roof. Improve roof diaphragm connections to the existing interior and exterior walls, including at the intersection of the high–to-low roof offset/stepped areas in the interior, by the addition of new plywood edge nailing to new 2x blocking over the walls and between all upper and lower roof rafters at the high-to-low roof offset/step and new Simpson galvanized steel framing clips or nailing to attach the blocking to the existing interior and exterior wall top plates or support beams and ledgers (See Figures 1, 2 and 3).

Improve Loft Floor Diaphragm Connections to Interior and Exterior Walls and Wall to Foundation Connections:

- Provide additional Simpson galvanized steel framing clips or nailing to improve the connection of the existing loft floor sheathing diaphragms to new 2x blocking over interior and exterior walls and interior support beams (See Figure 3) and additional connections consisting of bolting of the new exterior wall foundation sill plates to the new foundations (see below) using 5/8" dia. x 7" embed galvanized threaded rod bolts at 48 inches on center (32 inches on center at new plywood shear walls) for the full length of the new exterior wall sill plates (See Figure 4).

Improve Existing Shear Wall and Lateral Strength:

- Although not currently specifically triggered or required by code due to any proposed change of use or occupancy, as we understand it, based on our preliminary analysis, the existing exterior vertical wood siding walls would not have adequate capacity to resist the code required wind or seismic loads, even if strengthened by providing new 2x4 vertical wood studs and new 3x4 horizontal blocking throughout and renailing the vertical siding to the new vertical wood studs and horizontal blocking. Therefore, new 2x4 or 2x6 stud @ 16”o.c. and 15/32” plywood shear walls (4 total, one per exterior wall at approximately 10’-0” long each) or wood braced frames (4 total), are recommended to improve overall building seismic and wind performance (See Figure 4).

Provide New Interior and Exterior Foundations:

- Provide new reinforced concrete stem walls and foundations under all of the exterior walls (and any interior walls, where applicable) (See Figure 4) as well as new reinforced concrete pad footings under all interior support posts (See Figure 5), except where previously improved at the perimeter of the existing Milk Room. All new foundations should comply with the minimum requirements of the 2016 California Building Code.

DEER HOLLOW FARM
WHITE BARN HISTORIC STRUCTURE
PRELIMINARY RECOMMENDATIONS & PRICING
FOR PAGE & TURNBULL BY J.R. CONKEY & ASSOCIATES
FEBRUARY 28, 2018

	Minimum Stabilization Measure	Recommended Preservation Measure - in lieu of minimum stabilization	Recommended Preservation Measure - add-on task	Approximate Repair Amount	Quantity	Unit	Unit Price	Subtotal	*Mark-up (see below) for breakout	Minimum Stabilization Measure TOTAL	Recommended Preservation Measures ONLY - in lieu of minimum stabilization	Minimum Stabilization + alternative Recommended Measures TOTAL	Recommended Preservation Measure - add-on task
ACCESSIBLITY & EGRESS													
Make accessible the interior ground floor spaces: lower the threshold at the main entry door. Ensure that the path of travel into milking area and other public areas is ADA accessible.	x				1	LS	$3,500.00	$3,500	$2,763	$6,263		$6,263	
Modify the existing wood stair so that it complies with the requirements of a ladder per Section 304.3 of the California Mechanical Code. While we have not measured the distance between elements, we believe that the treads are within the requirements of Section 304.3 and that the only modifications required are to provide side railings that extend above the platform level. In addition, we recommend that a chain with a sign that indicates “NOT FOR PUBLIC ACCESS” remains at the bottom of the stair/ladder and that a guardrail is provide at the sides of the platform opening.	X				1	LS	$8,500.00	$8,500	$6,709	$15,209		$15,209	
Evaluate the code requirements for sprinklering or egress exits for the barn use.	X				1	LS	$5,000.00	$5,000	$3,947	$8,947		$8,947	
GENERAL													
Clean and repair existing gutters along the south façade and extend the north façade gutter and drainpipe.	X				1	LS	$1,200.00	$1,200	$947	$2,147		$2,147	
Install gutters and drainpipes to direct water away from the building and livestock yards.			X	2 locations	110	LF	$18.00	$1,980	$1,563				$3,543
Provide overall site and foundation drainage to keep site water away from the existing or new foundations and to prevent infiltration and accumulation of surface water near the foundations.	X				3,000	SF	$5.00	$15,000	$11,840	$26,840		$26,840	
Provide more obvious and numerous signage for areas of hazards, including stair ladder access, floor openings, and overhead dangers in the hay loft.	X				1	LS	$850.00	$850	$671	$1,521		$1,521	
Verify electrical components are protected from weather and pests. Replace as necessary to mitigate fire hazards.	X				3,500	SF	$2.00	$7,000	$5,525	$12,525		$12,525	
INSECT & RODENT INFILTRATION													
Fumigate the barn so as to kill all insect infiltrations within the wood members of the structure. Retain an insect removal professional to confirm the extent of the infestation throughout the building. Use a method which does not impregnate the historic wood with residual chemicals nor affect the livestock or hay stores (borate-based solutions are acceptable and typical as a long-term deterrent).	X				1	LS	$5,000.00	$5,000	$3,947	$8,947		$8,947	
Remove rat droppings or any other pest feces. Sanitize and repair areas following required governmental regulations and best practices for historic buildings.	X				3,500	SF	$1.00	$3,500	$2,763	$6,263		$6,263	
FOUNDATIONS													
Provide new reinforced concrete stem walls and foundations under all of the exterior walls (and any interior walls, where applicable) (See Figure 4, following) as well as new reinforced concrete pad footings under all interior support posts (See Figure 5, following), except where previously improved at the perimeter of the existing Milk Room. All new foundations should comply with the minimum requirements of the 2016 California Building Code.	X				28	CY	$950.00	$26,169	$20,656	$46,825			

DEER HOLLOW FARM
WHITE BARN HISTORIC STRUCTURE
PRELIMINARY RECOMMENDATIONS & PRICING
FOR PAGE & TURNBULL BY J.R. CONKEY & ASSOCIATES
FEBRUARY 28, 2018

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Provide new reinforced concrete stem walls and foundations under all of the exterior walls (and any interior walls, where applicable) (See Figure 4 above), except where previously improved at the perimeter of the existing Milk Room. Step the new stem wall appropriately at the edge footings to accommodate a brick veneer using the historic bricks. Replace brick footings in the interior of the barn with a custom galvanized steel post base bracket and attach as shown in the sketch below (Figure 6). Historic brick footing pedestals should be reconstructed around the post base bracket, as the brick pedestals and footings are a character-defining feature of the structure. All new foundations should comply with the minimum requirements of the 2016 California Building Code.		X			28	CY	$1,300.00	$35,810	$28,267		$64,077	$64,077	
Design Alternative to Required Stabilization Measure above: Install concrete slab under entire structure (except where existing) with footings and concrete stem wall as described above. Slab to be sloped to the exterior door openings to eliminate the need for interior floor drains.		X		~1600 SF	1,600	SF	$15.00	$24,000	$18,944		$42,944		
Recommended Preservation Measure (for Design Alternative): Historic bricks may be used as veneer over concrete at historic footing locations along exterior and at interior, or with galvanized steel post base bracket as designed in sketch.		X			1,600	SF	$10.00	$16,000	$12,629		$28,629		
STRUCTURE													
Provide proper, code required, wood-earth separation between the bases of the existing interior and exterior vertical wood support posts and the existing or new interior and exterior wall wooden sill plates and vertical siding and the adjacent soil grades (See Figures 4 and 5).	X				1,600	SF	$5.00	$8,000	$6,315	$14,315		$14,315	
Strengthen existing roof framing at the innermost higher roof area by sistering (doubling up) new 2x6 rafters to the existing 2x6 @ 30" o.c. roof rafters at all roof rafters and by improving the connections of all existing and new roof rafters to their supports. Also, provide a new 6x8 ridge beam to span between 2 new interior and 2 new exterior 6x6 vertical posts which align with the similar posts below, under the interior loft area floor (See Figure 1).	X				1,600	SF	$15.00	$24,000	$18,944	$42,944			
Strengthen existing roof framing at the innermost higher roof area by sistering (doubling up) new 2x6 rafters to the existing 2x6 @ 30" o.c. roof rafters at all roof rafters and by improving the connections of all existing and new roof rafters to their supports. Add crossing trusses on every third roof rafter, which eliminates the need for the new vertical posts.		X			1,600	SF	$16.00	$25,600	$20,207		$45,807	$45,807	

DEER HOLLOW FARM
WHITE BARN HISTORIC STRUCTURE
PRELIMINARY RECOMMENDATIONS & PRICING
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Improve roof diaphragm capacity with the addition of new 19/32-inch plywood sheathing throughout over the existing 1x skip sheathing at both the high and low roof areas. This will require temporary removal and reinstallation of the existing metal roofing as well as any damaged 1x roof skip sheathing over the entire roof. Improve roof diaphragm connections to the existing interior and exterior walls, including at the intersection of the high–to-low roof offset/stepped areas in the interior, by the addition of new plywood edge nailing to new 2x blocking over the walls and between all upper and lower roof rafters at the high-to-low roof offset/step and new Simpson galvanized steel framing clips or nailing to attach the blocking to the existing interior and exterior wall top plates or support beams and ledgers (See Figures 1, 2 and 3).	X				1,600	SF	$15.00	$24,000	$18,944	$42,944			
ALTERNATE: Install new plywood sheathing as noted. Retain reusable skip sheathing and corrugated roofing and reinstall.		X		90% corrugated sheet metal and 60% of skip sheathing is reusable.	1,600	SF	$10.30	$16,480	$13,008		$29,488	$29,488	
Provide additional Simpson galvanized steel framing clips or nailing to improve the connection of the existing loft floor sheathing diaphragms to new 2x blocking over interior and exterior walls and interior support beams (See Figure 3) and additional connections consisting of bolting of the new exterior wall foundation sill plates to the new foundations (see below) using 5/8" dia. x 7" embed galvanized threaded rod bolts at 48 inches on center (32 inches on center at new plywood shear walls) for the full length of the new exterior wall sill plates (See Figure 4).	X				1,600	SF	$5.00	$8,000	$6,315	$14,315		$14,315	
Although not currently specifically triggered or required by code due to any proposed change of use or occupancy, based on our preliminary analysis, the existing exterior vertical wood siding walls would not have adequate capacity to resist the code required wind or seismic loads, even if strengthened by providing new 2x4 vertical wood studs and new 3x4 horizontal blocking throughout and renailing the vertical siding to the new vertical wood studs and horizontal blocking. Therefore, new 2x4 or 2x6 stud at 16"o.c. and 15/32" plywood shear walls (4 total, one per exterior wall at approximately 10'-0" long each) or wood braced frames (4 total), are recommended to improve overall building seismic and wind performance (See Figure 4).	X				1,600	SF	$10.00	$16,000	$12,629	$28,629		$28,629	
WOOD SIDING & EXTERIOR DOORS													
Reattach siding to structurally improved frame. Reuse nails where possible, solidly anchoring all boards in original locations. Where replacements are required, replace boards to match wood type, texture, color, and size.	X				3,500	SF	$5.00	$17,500	$13,813	$31,313		$31,313	
Re-secure shakes over awning at screened opening on the north façade. Remove moss growth.	X				1	LS	$500.00	$500	$395	$895		$895	
Replace or Dutchman repair deteriorated edges of boards near grade.	X			40 FT	40	LF	$40.00	$1,600	$1,263	$2,863		$2,863	

DEER HOLLOW FARM
WHITE BARN HISTORIC STRUCTURE
PRELIMINARY RECOMMENDATIONS & PRICING
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FEBRUARY 28, 2018

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Prep, prime, and paint the wood exterior to improve weatherproofing and protection.	X				3,500	SF	$3.00	$10,500	$8,288	$18,788		$18,788	
Anchor hay loft floor where loose.	X				1,600	SF	$1.00	$1,600	$1,263	$2,863		$2,863	
Remove doors over hay loft floor openings and replace with wood boards (board should differentiate from the rest of the floor in some manner).	X				1	LS	$2,500.00	$2,500	$1,973	$4,473		$4,473	
Re-secure floor in south storage area (at former horse stalls); reuse historic nails.	X				1	LS	$1,000.00	$1,000	$789	$1,789		$1,789	
Install wire mesh under floor to prevent animal intrusion through gaps in flooring (but maintain historic gaps in flooring). (Applicable only if the wood floor is selected to remain in lieu of a concrete slab)	X				1,600	SF	$3.50	$5,600	$4,420	$10,020		$10,020	
Re-secure sliding barn doors where needed (replace missing bolts with cast bolts to match).	X			5 bolts	5	EA	$50.00	$250	$197	$447		$447	
Clean, prep, and paint all existing hardware to prevent any further corrosion. Tighten all anchors and add reinforcing blocking where necessary.	X				1	LS	$2,500.00	$2,500	$1,973	$4,473		$4,473	
ROOF													
Replace missing rafter tails and repair those exhibiting deterioration; sistered ends should not extend visually beyond the top plate of the exterior wall.	X			10 TAILS	10	EA	$150.00	$1,500	$1,184	$2,684		$2,684	
Install bird netting or other mesh materials to prevent bird access and nesting in the barn rafters.	X				1	ALLOW	$3,500.00	$3,500	$2,763	$6,263		$6,263	
Remove any existing white rust. Insert gapping material where the sheets overlap to prevent water dwelling at these points of contact causing the white rust.	X				1	ALLOW	$2,900.00	$2,900	$2,289	$5,189		$5,189	
TOTAL										**$340,277**	**$210,946**	**$346,936**	**$3,543**

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NOTES:

J.R. Conkey & Associates has been providing estimating services to public and private clients for more than 38 years. These estimating services include program, conceptual and full architectural cost planning. Historical and unique structures are a specialty we enjoy working with our architectural partners on as for many years we have provided estimating services on hundreds of these projects.

QUALFICATIONS:

1.) ESTIMATE ASSUMES DESIGN/BID/BUILD DELIVERY METHOD

2.) PRICING WITHIN THE ESTIMATE EXPECTS A MINUMUM OF 5 RESPONSIVE GENREAL CONTRACTOR BIDS.

3.) THE VARIANCE OF BIDS RECEIVED CAN AFFECT THE BID RESULTS, EXPECTATIONS ARE AS FOLLOWS:

1 bid	+15% to +40%
2-3 bids	+8% to +12%
4-5 bids	-4% to +4%
6-7 bids	-7% to -5%
8 or more bids	-12% to -8%

Per $100 of Subcontractor Cost =>		$100.00
Design Contingency	15%	$15.00
Subtotal		$115.00
General Conditions	20%	$23.00
Profit	15%	$20.70
Insurance. & Bonds	3%	$3.97
Subtotal		$162.67
Escalation (5% Annual)	10%	$16.27
Total Multiplied Mark-ups		$178.93
*Mark-up =		78.93%

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