Design Guidelines for the Historic Kōkeʻe, Halemanu and Puʻu ka Pele Camp Lots

(Kōkeʻe and Waimea Canyon Recreation Residences Historic District)

State of Hawaiʻi, Division of State Parks
June 2012

Design Guidelines for the Historic Kōkeʻe, Halemanu and Puʻu ka Pele Camp Lots

(Kōkeʻe and Waimea Canyon Recreation Residences Historic District)

Prepared for the
State of Hawaiʻi, Division of State Parks

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The architectural design guidelines (Design Guidelines) presented in this document were developed to enhance and maintain the historic character and integrity of the Kōkeʻe and Waimea Canyon State Parks Recreation Residence Historic District, Island of Kauaʻi. The Design Guidelines provide the Division of State Parks (State Parks), Department of Land and Natural Resources (DLNR), and those individuals or organizations leasing camp lots (Lessees) in Kōkeʻe and Waimea Canyon State Parks with the information and design principles needed to make sound decisions on how to repair, maintain, preserve, and rehabilitate the recreation residences, camp facilities, and landscaped lots located in these parks. They also provide guidance for new construction, including additions to existing facilities, so that any new construction will not diminish the overall historic character of the district. To ensure the appropriate application of these Design Guidelines, this document also establishes a review process by which State Parks and the State Historic Preservation Division (SHPD) will determine whether individual projects proposed by Lessees conform to the Design Guidelines.

State Parks committed to developing and implementing these Design Guidelines to fulfill, in part, its responsibilities under the State of Hawaiʻi's historic preservation review process mandated by §6E-8, Hawaii Revised Statues (HRS) and Chapter 13-275, Hawaii Administrative Rules (HAR). This process requires an agency to give SHPD an opportunity to review any agency project that may affect historic properties. In this case, it was determined that issuing new leases for the historic recreation residences and camp lots could affect significant historic properties and that measures to mitigate these potential effects were warranted. These Design Guidelines and the individual project review process they establish constitute "the detailed mitigation plan" called for in §13-275-8(h), HAR. They provide both detailed guidance and a process by which this detailed guidance can be applied to individual projects proposed by Lessees.

State Parks also committed through the §6E-8, HRS, compliance process to make adherence to these Design Guidelines and to a design review process a condition of any new lease agreement for recreation residences or camp lots. State Parks hopes to establish a mutual understanding with all of its Lessees that the principles and values of historic preservation will be given high priority when decisions are made to repair or rehabilitate historic structures or to construct new structures within the historic district.

Beyond regulatory requirements and lease conditions, this document advocates for the long-time preservation and rehabilitation of historic structures and their settings by providing useful information on how to treat historic building materials and structures when routine or periodic maintenance work is being performed. This document is also designed to raise awareness of basic preservation principles and approaches, and to relate such principles to the types of buildings and materials in the parks. This guidance is not intended, however, to replace professional judgment when major rehabilitation projects and new construction are being planned.

KŌKEʻE AND WAIMEA CANYON STATE PARKS RECREATION RESIDENCE HISTORIC DISTRICT

It is through the §6E-8, HRS, compliance process that the three complexes of historic camp lots, called Kōkeʻe, Halemanu and Puʻu ka Pele Camp Lots, were determined to be significant as a discontiguous historic district (see figure on page 3). As such it was entered into the "Hawaiʻi inventory of historic places" [§13-275-6(d)(3)] as the "Kōkeʻe and Waimea Canyon State Parks Recreation Residence Historic District" (Historic District). The Historic District exhibits a legacy of unique architecture and is officially recognized as an integral and irreplaceable part of the cultural and historical heritage of Kauaʻi and the State of Hawaiʻi. These camp lots and their historic structures still convey those cultural and aesthetic values that have made them a coveted recreational retreat and a respite from hot summers for over 70 years.

Over this 70-year period, at least 146 individual lots have been designated for camping and recreational purposes within the three major camp lot complexes. Of these lots, 103 have existing recreation residences, six have group camp facilities, and one has served as a ranger station. Of the 113 lots with standing structures, 69 lots have structures that are historic (i.e., over 50 years old) and

have been evaluated as contributing to the overall significance of the Historic District. The recreation residences and camp facilities on the remaining 41 structures are either non-historic (i.e., less than 50 years old) or are no longer considered contributing structures because their historic integrity has been compromised by inappropriate changes.

Recognizing these camp lots as a Historic District provides a framework to manage and protect the area as a unified whole and as a cultural landscape, including the publicly visible aspects of its historic buildings and their setting.

AREA SUBJECT TO DESIGN GUIDELINES

These Design Guidelines, including the design review process, will apply to all camp lots, recreation residences, and camp facilities leased by State Parks that are located within the boundaries of the Kōke'e and Waimea Canyon Recreation Residence Historic District at Kōke'e and Waimea Canyon State Parks, Kaua'i. This includes all individual, leased parcels within Tax Map Key plats 02, 03, and 04 (TMK: (2) I-4-02, 03, 04: various parcels). While the text of the Design Guidelines focuses on Lessees and recreation residences, any agency or entity using facilities on any of these parcels is expected to follow the guidelines. This includes those with revocable permits or other agreement types that include provisions requiring adherence to the Design Guidelines.[1] Where applicable, the basic preservation concepts embodied by the Design Guideline will also be applied to any projects proposed along access corridors or non-leased land within the Historic District boundaries.

HOW TO USE THE DESIGN GUIDELINES

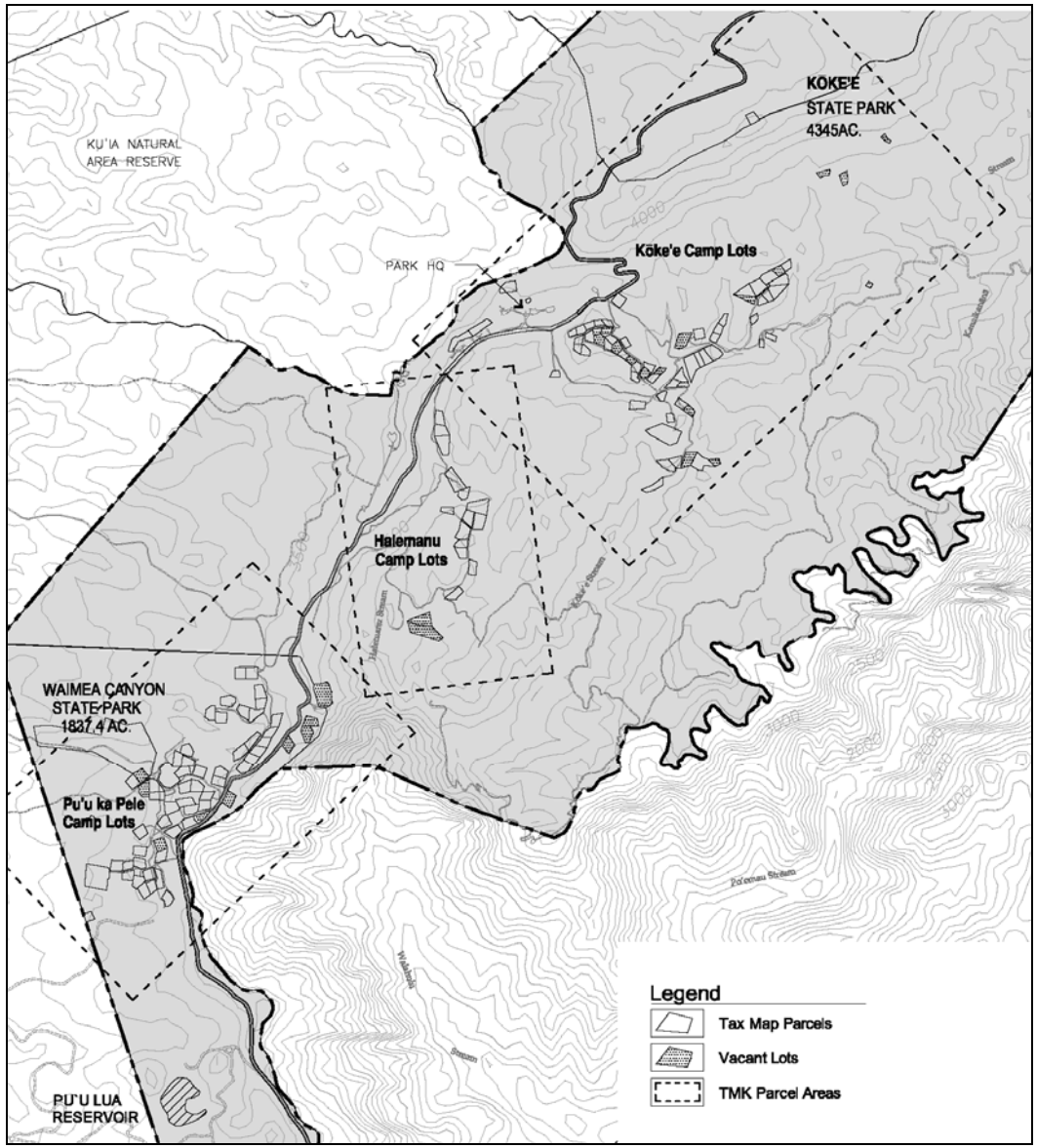
This document is to be used as a primary resource for Lessees who are planning improvements ranging from relatively simple repairs or routine maintenance tasks to the construction of new recreation residences on vacant lots. A Lessee contemplating a project should refer to Chapter 2 (Review Process) to determine if the anticipated project requires official design review. Staff of State Parks and SHPD should be consulted if there is any ambiguity over the need for official review. Chapter 2 also outlines the steps needed to complete the review process and identifies the supporting documents needed to evaluate a proposed project. A list of other state and county permits or approvals that may apply to projects is also included to encourage early coordination of all compliance requirements. Any architect or contractor preparing plans or project descriptions should be given a copy of the Design Guidelines to ensure that they are applied early in the design phase of the project. In many cases, professional architects and contractors are the ones who will be instrumental in implementing the guidelines.

Chapter 3 (Historic Character) presents the historical and architectural foundation for the Design Guidelines. Those who will use their professional judgment, either to design a project or to assess a project's adherence to the Design Guidelines during the review process, will rely on this chapter to understand the architectural and landscape styles, features, materials, and construction methods that uniquely and collectively convey the historic character of the three camp lot complexes. This historic character and integrity will be the basis for determining if a project, particularly a larger project, is compatible with the character of the district. It is also the foundation for specific guidance given in subsequent sections of the document.

Chapter 3 defines and illustrates the two dominant architectural styles found in the camp lots (i.e., Vernacular Rustic Style and Vernacular Plantation Style) and the various character-defining features that typify these styles and their landscaped settings. A historical overview of the camp lots and the various social, political, and economic factors that influenced their development, architecture, landscapes, and historical significance is included in Appendix A.

[1] For the sake of brevity, the term "Lessee" is used throughout the Design Guidelines to apply to permittees and those covered by other agreement types and the term "recreation residence" is used to apply to group camp facilities or other facility types regardless of function.

Figure 1: Project Map:



The primary intent of Chapter 4 (Guidelines for Repair and Rehabilitation) is to provide advice on how to repair and maintain significant character-defining architectural features in the Historic District and the materials of which they are constructed. Discussed are materials such as masonry, wood, and paints and finishes, and features such as windows, doors, and roofing. Also addressed are issues related to plumbing and electrical wiring in historic structures. This chapter essentially establishes some “best practices” for repair and maintenance work. This advice can be applied routinely to small repair projects or to large-scale rehabilitation project that incorporate multiple actions in a single project.

Chapters 5 through 7 address various design options for situations that are most likely to affect the historic context of individual camp lots or the visual integrity of the Historic District. New construction is addressed in Chapter 5 to ensure that any new structures will complement the District’s existing historic architecture. New construction should blend with the historic character of a lot or neighboring lots and not aim to copy or imitate existing historic structures or styles. Examples are given on how design options and site selection can be approached in these cases. Chapter 6 sets out the guiding principles for constructing additions to existing structures and for maintaining previously constructed additions. Again priority is given to complementing existing structures but not replicating them. Additions should not detract from existing structures. Efforts to maintain the historic character of the landscaped yards is addressed in Chapter 7. Included are treatment options for existing or proposed site features (e.g., driveways, paths, boundary markers, gates, and retaining walls) and those landscape elements that rely on maintaining living plant communities, whether ornamental plantings or naturalized stands of native and non-native plant species.

PHILOSOPHY OF DESIGN REVIEW

These Design Standards and guidelines are based on "The Secretary of the Interiors Standards for the Treatment of Historic Properties" and the specific needs of the community. The principal approach in design guidelines is the emphasis on preservation and careful rehabilitation. This view is illustrated through the use of such words as REPAIR, RETAIN, MAINTAIN and PROTECT. For example, it is important to *repair* original materials rather than replace them; *retain* original landscape features such as stone retaining walls; *maintain* the original wood siding because it is integral in displaying historic character, and *protect* the original setting of the recreation residence to perpetuate its integrity. Guidelines are intended to describe solutions for rehabilitation that might best preserve the historic character of historic properties and districts, while providing a framework and philosophy for those preparing or reviewing project plans.

The Design Guidelines generally focus on exteriors with an emphasis on the main facade of a building, such as that readily visible from the roadway. Although interior spaces may also be historically significant and worthy of preservation, it is primarily the built environment that is visibly accessible to the public that is the subject of the guidelines for preservation. Design options for interiors are much more flexible and largely reserved to the Lessees.

THE REAL WORK OF PRESERVATION

It is individual Lessees who do the real work of preservation by keeping their buildings in good repair, and through their efforts to rehabilitate, restore, and preserve structures in ways that accurately reflect a building’s style and history. Such honesty is compatible with making the Kōkeʻe and Waimea Canyon Recreation Residence Historic District comfortable and appropriate for today’s lifestyles.

The overall goal of the Design Standards and Guidelines for the Historic Kōkeʻe, Halemanu and Puʻu ka Pele Camp Lots is to preserve and protect Kōkeʻe, not to complicate the lives of Lessees. Our shared heritage, the visual and architectural characteristics of Kōkeʻe, is precious. It cannot be found anywhere else in the world, nor can it be duplicated or simulated. If our historic structures’ are altered without thought to their original style or to Kōkeʻe’s architectural heritage, we have stolen from our community’s future. Preservation is not only for us, but also for those in the past and the

future. We must take the long view, working together as partners and stewards of this community, which is situated in that timeless, uniquely Kōkeʻe intersection of past and present.

METHODOLOGY

The State Parks retained Mason Architects to prepare design standards and guidelines for the historic Kōkeʻe, Halemanu and Puʻu ka Pele Camp on the island of Kauaʻi. The history and architectural inventory of the Camp Lots written by Dawn Duensing in 2003 served as the basis for these guidelines.

The guidelines for preservation, rehabilitation, additions, and new construction were completed by Barbara Shideler, AIA, of Mason Architects in June-August 2006. Ms. Shideler is a registered architect in the State of Hawaiʻi and is trained in architectural history and historic architecture. She has a B.A. in Architecture from the University of Hawaiʻi at Mānoa; and a Graduate Certificate in Historic Preservation, also from University of Hawaiʻi at Mānoa. With this training and twenty-three years of experience in the field of historic preservation, Ms. Shideler meets the professional qualification standards under Historic Architecture and Architectural History outlined in 36 CFR 61.

The field work, as well as the history and architectural heritage sections of the document were prepared by Dawn Duensing, MA, as a subconsultant to Mason Architects. Ms. Duensing is trained in history and historic preservation. She has a M.A. in History from Northern Illinois University and a Graduate Certificate in Historic Preservation from the University of Hawaiʻi at Mānoa. With this training and more than twenty years experience in architectural history, Ms. Duensing meets the professional qualification standards under Historic Architecture and Architectural History outlined in 36 CFR 61.

The regulatory background for the Design Guidelines was prepared under the direction of Dr. Holly McEldowney of the State of Hawai'i, Department of Land and Natural Resources, Division of State Parks.

REVIEW AND APPROVAL PROCESS

The design review process described in this chapter provides a framework for State Parks and the State Historic Preservation Division to determine whether or not a project proposed within the Kōkeʻe and Waimea Canyon State Parks Recreation Residence Historic District conforms to the Design Guidelines outlined in this document.

This decision-making process relies on a three-tiered project review structure with each of the review levels reflecting the relative scale of a proposed project and the degree to which it could alter the historic character and integrity of a historic structure, its setting, or the Historic District. Accordingly, the greater a project's potential to affect the historic character of a structure or the district, the greater the need to conform to the Design Guidelines and the more rigorous the review process.

In general, factors considered when determining which level of scrutiny a project merits include, but are not limited to, the following:

- Overall size or scale of the project;
- Whether a proposed action requires a county or state permit or Department of Land and Natural Resources (DLNR) approval under the terms of the lease agreement;
- Extent to which repairs or rehabilitation efforts affect historic character-defining elements and/or materials of a historic structure, particularly the structure's exterior;
- Whether alterations or additions will exceed the footprint, height, density, or capacity of an existing structure or landscaping;
- Degree to which proposed actions alter the outward appearance or public view of structures and camp lots or, conversely, affect only areas largely hidden from public view;
- Whether a project will impact the visual integrity of the Historic District; and
- Whether actions are temporary in nature or easily reversible.

The three levels of project review are:

I. No review required to evaluate compliance with these Design Guidelines;
II. Departmental review and approval required by the Division of State Parks (State Parks), the State Historic Preservation Division (SHPD); and potentially the DLNR Chairperson;
III. State (State Parks, SHPD, DLNR Chairperson) and Kauai County review and approval for permitable actions could be required, including review by the Kauai Historic Preservation Review Commission (KHPRC).

Examples of project types that fall within each of these review categories are presented in this chapter and in Table 1. Most projects will clearly fall within one of the three categories, but others may be less certain. In these cases, advice from State Parks or SHPD should be sought to determine which review track is appropriate.

Major projects that have the greatest potential to affect individual historic structures, camp lots, or the Historic District will, most likely, be subject to multiple review requirements under provisions of the lease agreement, applicable building codes, and environmental review considerations. The basis for these requirements and how they apply to proposed recreation-residence projects is discussed in the final section of this chapter (*See* Basis for Project Review and Approval).

The main trigger for a project requiring Level III instead of Level II review will be the need to obtain County-issued building or grading permits. State Parks will request that the County permit process include review by the Kauaʻi Historic Preservation Review Commission (KHPRC). KHPRC will issue a finding on whether a proposed project does or does not conform to established preservation guidelines and, if not, suggest revisions to bring the project into conformance. These findings will be conveyed to the County Public Works Divisions, State Parks, and SHPD as

recommendations. State Parks may request KHPRC advice in exceptional circumstances even if a County permit is not required.

Other projects having the potential to affect the character and integrity of individual structures and camp lots, but not needing County permits or other major approvals, will be reviewed by State Parks and SHPD. At either level, it is SHPD that ultimately determines whether project proposals fulfill the requirements of the Design Guidelines and are thus an acceptable detailed mitigation plan required under HAR §13-275-8(h). The design review process is described in greater detail in this chapter and outlined in Table 2.

For projects that do not require agency review and approval, Lessees are still required by the terms of their leases to follow the guidance and recommendations provided in the Design Guidelines. Much of the information presented in Chapter 4 can be applied to relatively minor repair projects and long-term maintenance strategies for which no formal review is required.

The Design Guidelines are not meant to dictate specific outcomes for design issues but instead offer alternative solutions that fall within a range of options and approaches that are compatible with the historic character of the Historic District. For example, there is considerable latitude in what Lessees can propose for new work, such as construction of new structures, extensions to existing residences, or renovation of residence interiors, if the submitted plan takes into account and addresses the impact the project could have on historic structures or the Historic District. There is less latitude when plans call for the rehabilitation of significant historic recreation residences. In these cases, plans should comply with the Secretary of the Interior's Standards for Rehabilitation and the guidance provided in the Design Guidelines to meet those standards.

Note also that this review process does not require a Lessee to instigate improvements that are not otherwise contemplated in the submitted project proposal. For example, if a Lessee plans to repair a deteriorated porch, the review process would not require repair of other deteriorated building features at the same time. The resulting project approval would not require that a roof or window in poor condition be repaired. The Design Guidelines would only be used to indicate appropriate methods to repair the porch. Note, however, that the Lessee is bound by the lease agreement to keep the recreation residences or camp facilities in good repair.

In all cases, the DLNR divisions involved in this review process will work with Lessees to find ways to accommodate their proposals while still satisfying the intent of the historic preservation review process and preserving the integrity of the Historic District.

LEVELS OF DESIGN REVIEW

The following outlines the kinds of projects that generally fall within each of the three levels of review required when a project is undertaken (*see* Table 1):

LEVEL I: NO REVIEW REQUIRED:

No project review and approval is required under the terms of the lease agreement for the following actions. Lessees are still required by the terms of their leases to follow the guidance and recommendations provided in the Design Guidelines.

Emergency Actions:

- Minor repair or maintenance of an existing structure in a manner that involves mostly cosmetic work or like-to-like replacement of component parts, and that results in a negligible change or impact. Work will not affect the historic integrity of the residence, lot, or Historic District.

Minor Repairs and Routine Maintenance:

- Routine minor repair or maintenance of an existing structure that conforms to these guidelines, for example caulking around doors and windows, repair of flashings, rehabilitation of hardware, or repainting in the same color scheme.
- Projects that include the renovation or non-structural alteration of interior spaces, including painting, installation of

interior wall or floor covering, and cabinet work. Work will not result in an alteration of the outward appearance of the structure.

Site Work and Landscaping:

- Landscaping and routine maintenance, including mowing lawns or pruning trees and shrubbery.
- Temporary tents or other coverings, for periods not to exceed 14 consecutive days, if used for private family parties or camping
- Removal of noxious plants and trees for maintenance purposes, including clearing with power hand tools or that which results in only minor ground disturbance.

LEVEL II: DEPARTMENTAL (DLNR) REVIEW:

The following types of projects do not require a Kauaʻi County building permit, but require review by State Parks and SHPD for conformance with the Design Guidelines. Note that Wastewater Branch (Hawaii Department of Health) permits may be required if projects entail the closure or an additional hook-up to existing cesspools.

Emergency Projects:

- Demolition, removal, or minor alteration of existing structures needed to halt or prevent additional deterioration or resolve risks to health and safety. Review of repairs will be expedited.

Repairs and Maintenance:

- Repairs that involve only the replacement of component parts of existing structures with similar materials for the purpose of maintenance, and which do not aggregate over $10,000.00 in valuation in any 12-month period, and do not affect any electrical, plumbing, or mechanical installations.
- Repair work performed by a licensed electrical contractor that does not aggregate over $500.00 in valuation in any 12-month period and does not involve service entrance equipment.
- Reroofing work that will not adversely affect the structural components or the replacement of siding to existing exterior walls that will not adversely affect the structural components of the walls.

Additions to Existing Residences:

- Accessory one-story detached buildings used as tool and storage sheds, playhouses, animal shelters, water catchment, green houses, trash enclosures, and similar uses, provided the aggregate floor area does not exceed 200 square feet. Accessory uses shall be allowed only if they are consistent with the character of the Historic District.
- Fences and planter boxes not more than six feet in height.
- Retaining walls, not over four feet in height.
- Walkways and outside paving within the leased lot.
- Individual residential television and radio antennas, including dish-type antennas.
- Playground equipment.
- Publicly visible signs, including no trespassing and warning signs.

Site Work and Landscaping:

- Removal or redesign of portions of defined ornamental plantings or orchards and open lawns that convey the longstanding setting of the camp lot.
- Removal of noxious plants and trees for maintenance purposes, including clearing with power hand tools or that which results in only minor ground disturbance.
- Removal of not more than five trees less than 6 inches in diameter measured at ground level.

Table 1: Levels of Design Review

LEVEL I: NO REVIEW REQUIRED:	LEVEL II: DEPARTMENTAL (DLNR) REVIEW:	LEVEL III: STATE AND COUNTY REVIEW AND PERMITTING:
• Emergency Actions: • Minor repair or maintenance of an existing structure in a manner that involves mostly cosmetic work or like-to-like replacement of component parts, and that results in a negligible change or impact. Work will not affect the historic integrity of the residence, lot, or Historic District. • Removal of noxious plants and trees for maintenance purposes, including clearing with power hand tools or that which results in only minor ground disturbance. **• Minor Repairs and Routine Maintenance:** • Routine minor repair or maintenance of an existing structure that conforms to these guidelines, for example caulking around doors and windows, repair of flashings, rehabilitation of hardware, or repainting in the same color scheme. • Projects that include the renovation or non-structural alteration of interior spaces, including painting, installation of interior wall or floor covering, and cabinet work. Work will not result in an alteration of the outward appearance of the structure. **• Site Work and Landscaping:** • Landscaping and routine maintenance, including mowing lawns or pruning trees and shrubbery. • Temporary tents or other coverings, for periods not to exceed 14 consecutive days, if used for private family parties or camping. • Removal of noxious plants and trees for maintenance purposes, including clearing with power hand tools or that which results in only minor ground disturbance.	**• Emergency Actions:** • Demolition, removal, or minor alteration of existing structures needed to halt or prevent additional deterioration or resolve risks to health and safety. **• Repairs and Maintenance:** • Repairs involving replacement of component parts of existing structures with similar materials for the purpose of maintenance, and which do not aggregate over $10,000.00 in value in any 12-month period, and do not affect any electrical, plumbing, or mechanical installations. • Repair work performed by a licensed electrical contractor that does not aggregate over $500.00 in value in any 12-month period and not involving service entrance equipment. • Reroofing work or the replacement of siding that will not adversely affect structural components. **• Additions to Existing Residences:** • Accessory one-story detached buildings provided the aggregate floor area does not exceed 120 s.f. Accessory uses allowed only if they are consistent with the character of the District. • Fences and planters not more than six feet high. • Retaining walls, not over four feet high. • Walkways and outside paving within the lot. • Individual residential television and radio antennas, including dish-type antennas. • Playground equipment. • Publicly visible signs. **• Site Work and Landscaping:** • Removal or redesign of portions of defined ornamental plantings, orchards or open lawns that convey the longstanding setting of the lot. • Removal of noxious plants and trees for maintenance purposes, including clearing with power hand tools or that which results in only minor ground disturbance. • Removal of not more than five trees less than 6 inches in diameter measured at ground level.	**• Emergency Actions:** • Reconstruction of damaged structure located on the same site and of the same dimensions as the structure reconstructed. • Enlargement of a damaged structure or substantial change in structure height that prevents additional deterioration of the structure and restores the structure's integrity. **• Major Repairs and Rehabilitation:** • Renovation or structural alterations changing the outward appearance of the structure. **• Additions to Existing Residences:** • Alteration or expansion of existing structures or facilities that differs significantly from their current size or appearance. • Construction or placement of accessory structures greater than 120 square feet. **• New Construction:** • Construction of new recreation residences. • Replacement or reconstruction of existing structures and facilities. The new structure located on the same site and of the same dimensions as the structure reconstructed **• Demolition or Relocation:** • Demolition or removal of existing structures. • Demolition, grading, removal, or significant alteration of topographic features. **• Site Work and Landscaping:** • Site work or landscaping in area >10,000 s.f. Natural plant cover shall be restored with endemic or indigenous plants, or ornamental plants compatible with historic landscaping. • Major alteration of defined planting beds with ornamental plants, orchards, lawn, or planted areas that conveys the setting of camp lots. • Site work or landscaping that affects endemic or indigenous plants, or removal of more than five trees, >six inches dia. measured at ground level. • Construction of retaining walls, perimeter fences, and landscape features greater than 30" high. • Erosion control, flood control, and other hazard prevention devices or facilities.

LEVEL III: STATE AND COUNTY AGENCY REVIEW AND PERMITTING:

In addition to State Parks and SHPD review and approval, applications for projects of the type listed below will require Kauaʻi County permits and review by the Kauaʻi Historic Preservation Review Commission.

Emergency Projects:

- Reconstruction of damaged structure located on the same site and of the same dimensions as the structure reconstructed. The review will be expedited to the extent possible.
- Enlargement of a damaged structure or substantial change in structure height (for example, roof additions) that helps prevent additional deterioration of the structure and restore the structure's integrity. The review will be expedited to the extent possible.

Major Repairs and Rehabilitation:

- Renovation or structural alterations that result in a change to the outward appearance of the structure, such as the reconstruction of the structural elements of a roof, *lanai*, or chimney; or the replacement of windows and doors.

Additions to Existing Residences:

- Alteration or expansion of existing structures or facilities that differs significantly from their current size or appearance.
- Construction or placement of accessory structures greater than 200 square feet.

***New Construction*:**

- Construction of new recreation residences or camp facilities.
- Replacement or reconstruction of existing structures and facilities. State or County permit(s) and approval(s) will be needed.
- The newly constructed residence or facility shall be located approximately on the same site and would have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced.

Demolition or Relocation:

- Demolition or removal of existing structures or facilities.
- Demolition, grading, removal, or significant alteration of topographic features.

Site Work and Landscaping:

- Site work, including landscaping (defined as alteration or clearing of plant cover, including trees) in an area of more than 10,000 square feet. Natural vegetative plant cover, where disturbed, shall be restored or replaced with endemic or indigenous planting or ornamental planting compatible with existing or historic landscaping.
- Major alteration of defined planting beds with ornamental plants and orchards or layout of lawn and planted areas that conveys the setting of historic camp lots.
- Site work, including landscaping (defined as alteration or clearing of plant cover, including trees) that affects endemic or indigenous plant materials and the removal of more than five trees, six inches or greater in diameter measured at ground level.
- Construction of retaining walls, major perimeter fences, and other landscape features greater than 30 inches in height.
- Erosion control, flood control, and other hazard prevention devices or facilities.

DESIGN REVIEW APPLICATION PROCESS

Applications

Applications for all actions requiring review shall be submitted to State Parks using the Recreation Residence Design Review Form. The form is available on the State Parks website or by request.

Table 2: Review Process

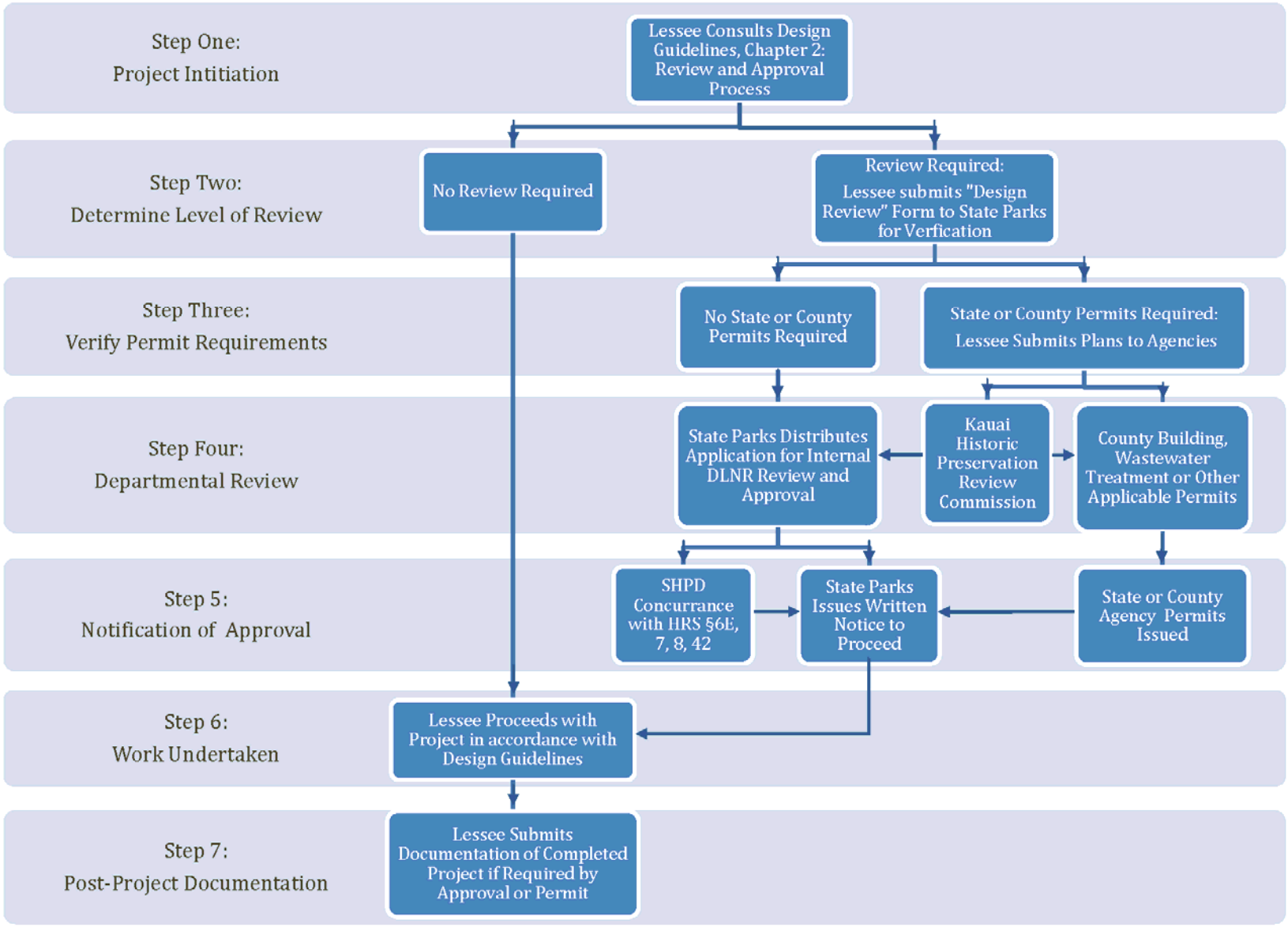


Table 3: Levels of Design Review and Agency Review Requirements

Proposed Actions Actions Abstracted from Table 1 See "Levels of Design Review" Section for Details	Agency Review and Considerations							
	State Parks Review (Lease Agreement)	SHPD Review (Chapter 6E, HRS)	DLNR Chairperson Approval (Lease Agreement)	Environmental Review Process and Conservation District Use (Considerations)	Wastewater Branch, DOH (Approval)	Building Division Kaua'i County (Building Permit)	Engineering Division Kaua'i County (Grading, Grubbing, Stockpiling, etc)	Kaua'i Historic Preservation Review Commission (Advisory to County)
Level I: No Review								
Emergency Actions Minor repair or maintenance action to prevent further damage								
Maintenance Routine actions; repair existing structures and features with similar material								
Minor Repairs Interior, non-structural renovations								
Site Work and Landscaping Minor landscaping, routine yard work, temporary tents								
Level II: Department Review								
Emergency Actions Repair or reconstruction with similar materials to prevent ongoing damage; critical electricity or plumbing repairs	•	•	•					
Repairs Same materials used; work <$10,000; electrical work <$500; reroofing or siding replacement with same materials	•	•						
Additions Extension to residence <$10,000; detached building <120 sq ft; install low fence, retaining wall, or walkway or paving	•	•	•					
Site Work and Landscaping Remove longstanding landscape plantings; remove trees <6" diameter	•	•	•					
Level III: State & County Review								
Major Repairs Renovation or structural alteration (e.g., replace roof or lanai; restore chimney)	•	•		•		•		•
Additions Extension to residence requiring agency permit; accessory structure >120 sq ft.	•	•	•	•	•	•		•
New Construction Construct new residence or camp facility; replace existing structure	•	•		•	•	•		•
Demolition or Relocation Demolish or remove existing structure; alter major topographic features	•	•	•	•	•	•		•
Site Work and Landscaping Alter or add major landscape plantings; remove trees; install high retaining wall or fence or erosion control device	•	•	•	•			•	•

A minimum of one (1) hard copy and one (1) electronic copy of the submittal with all attachments shall be submitted for Departmental Review. Alternatives will be considered if electronic submittals are difficult, in whole or part, for particular Lessees or for a particular proposal. Verify submittal requirements for State and County permits with the authority having jurisdiction.

The application and any supporting documents should contain sufficient information to allow reviewers to determine the appropriate level of review and if the project conforms to the Design Guidelines and will therefore not diminish the historic character and integrity of a historic structure or the Historic District. State Parks staff may be contacted for advice on the kinds of information required or requested. Submissions shall include a summary explaining why applicants, or architects and contractors acting on their behalf, believe their proposal conforms to the Design Guidelines.

Providing sufficient information may require some of the following attachments depending on the scope and nature of the project:

Location Map:

- An area plan, with a north arrow and graphic scale, should identify the relationship of proposed uses, alterations, or additions to existing structures, roads, infrastructure, or major boundaries in vegetation cover.

Site Plan/TMK:

- Site plans should include, but are not limited to: dimensions and shape of lot; metes and bounds; and existing features (including vegetation, driveways, utilities, and existing structures). Contour maps should be submitted for projects where slopes are 20% or more. Digital copies of the recreation residence TMK plats are available on the State Parks website.

Construction Plans:

- Construction plans shall contain a floor plan, roof plan (if applicable), elevations, and landscaping plans drawn to scale. All plans should include a north arrow and graphic scale.
- Construction plans should include, but not be limited to: existing and proposed changes in contours; all buildings and structures with indicated use and critical dimensions (including floor plans) in square footage; landscaping (including buffers and fences); driveways (including widths and material used to level or stabilize driveway surfaces); existing and proposed drainage plans (including erosion sedimentation controls); proposed utilities and other improvements; revegetation plans; trenching, filling, dredging and/or soil disposal.

Photographs:

- Current color photographs of the area or applicable structure shall be submitted with all applications. Digital copies of photographs are preferred. Photographs of damage to be repaired or features in poor condition are particularly important. If available, historic photographs of the structure or camp lot should be included to illustrate the historic character of a structure or house lot and thus support proposed rehabilitation or other plans.

Product Data or Specifications

- Submit detailed product data (technical data sheets, material safety data sheets, brochures or catalog cuts) for major items, such as roofing, windows and doors, hardware, lighting and plumbing fixtures, paint or other finishes. Provide the manufacturer's written installation or application instructions.

Project Cost:

- Estimate of cost of materials and labor. Provide a professional cost estimate or detailed proposal on an architect's or contractor's letterhead. Alternatively, verification of project costs may be determined using the County of Kauai's "Residential Building Valuation Policy".

Review Schedule

State Parks will review all applications for completeness within fifteen (15) days of receiving the application. If the application is found to be incomplete, the applicant shall be so notified by e-mail or letter stating the reasons. If an application is accepted, the applicant shall be notified by e-mail or letter and the level of review required confirmed. Physical receipt of an application by State Parks does not constitute acceptance.

If the application is subject to Level II: Departmental Review by State Parks and SHPD, the two divisions will have forty-five (45) days to complete their review. SHPD will notify State Parks in writing if the plans are acceptable or not and, if not, outline the changes requested or other concerns. State Park will pass the results on to Lessees. This forty-five (45) day period also includes review by the DLNR Chairperson if required under the lease agreement. This pre-project review process is complete when SHPD agrees, in writing, that the proposed project plans are an acceptable detailed mitigation plan under HAR §13-275-8(h)(8) and that work can proceed. The overall process is not complete until State Parks verifies that work was conducted according to the approved plan and SHPD concurs.

The schedule for projects requiring Level III: Review and Permitting by multiple agencies is less predictable, particularly if the review of one agency results in a significant redesign. Lessees should contact the Kauaʻi County Public Works Division and the HDOH Wastewater Branch for their review timelines. These applications will, most likely, be reviewed by the KHPRC as well. If so, Lessees will be notified by e-mail or letter with details for the next scheduled KHPRC meeting. The Lessees, or architects and contractors acting on their behalf, are encouraged to appear before the KHPRC to advocate for their project and discuss KHPRC suggestions. State Parks and SHPD may be consulted to help applicants address concerns raised by the KHPRC. A project may be routed to the KHPRC a second time if the required revisions effectively result in a new plan. The intention, however, is to have the KHPRC review a submittal only once.

If KHPRC recommends project approval and all other review requirements are met, State Parks and SHPD will have forty-five (45) days to complete their review. This timeframe is consistent with the historic preservation review process established by HAR §13-275-8(h). SHPD will notify State Parks in writing if the plans are acceptable or not and, if not, outline the changes requested or other concerns. State Park will pass the results on to Lessees. This pre-project review process is complete when SHPD agrees, in writing, that the proposed project plans are an acceptable detailed mitigation plan under HAR §13-275-8(h)(8) and that work can proceed. The overall process is not complete until State Parks verifies that work was conducted according to the approved plan and SHPD concurs.

Work Time Frame and Extensions

Approved plans and projects will be considered valid for twelve (12) months and work is expected to be completed within that time period. If plans change while work is in progress, the Lessees must contact State Parks before undertaking a change or deviation from the approved plan. Expired project plans may be extended for a period of time deemed appropriate by State Parks provided there have been no changes to that plan or the project. Lessees may also request time extensions to comply with the conditions of an approved project or to obtain county and state permits for plan amendments. Extensions shall be submitted to State Parks prior to the expiration deadline.

Violation of Lease Agreement

In any case where a Lessee has failed to complete the design review process when required or to complete a project as proposed in the approved plan, the work will be considered in violation of the lease agreement.

BASIS FOR PROJECT REVIEW AND APPROVAL

This chapter identifies State and County review requirements that could be triggered by improvements to the recreation residences. These include multiple covenants in the lease agreement, State laws regulating historic properties and environmental protection, and County building, grubbing and grading ordinances. The following summarizes the review requirements and process. Coordinating these multiple requirements will help State Parks and Lessees meet their obligations in a timely and efficient manner. Note that some atypical projects could trigger other statutes or regulations not covered here.

Recreation Residence Lease Agreement

The DLNR lease agreement includes language requiring Lessees to comply with applicable laws and to take certain actions. Lease requirements that potentially overlap with the Design Guidelines are listed in Table 4 with citations to the lease covenant and page number. Three of the five make general statements about complying with all applicable laws, particularly those pertaining to the Conservation District, to environmental review, and to historic preservation law. The other two obligate lessees to control soil erosion and noxious weeds, and to keep their lots and structures in a state of repair.

Five lease covenants require lessees to obtain approvals for specific actions (Table 5). The cutting or destroying of trees, and waterline improvements require DLNR approval. Utilities installed by Lessees need to conform to State and County regulations and codes. Lessees must stop work and comply with HRS, Chapter 6E (State historic preservation law) if unidentified historic properties or burials are discovered on the premises. Covenant #7 requires Lessees to obtain the DLNR Chairperson's approval for major improvements and to comply with the Design Guidelines if improvements could affect the historic integrity of a recreation residence, the lot, or the Historic District. When DLNR Chair approval is needed, State Parks will coordinate this project review with that of SHPD. A final approval letter will be issued to document concurrence by the DLNR Chairperson (when needed), SHPD, and State Parks and to verify that all other applicable permits or approvals were obtained.

Table 4: General Requirements of Lease Agreement

General Obligations	Requirements	Lease Covenant
General Compliance	Compliance required with all municipal, state, and federal laws applicable to the premises or actions on the premises, including resource protection laws and regulations as applicable in State Parks	Covenant #7; page 5
Conservation District – All lots within Conservation District	Lessee shall obtain Conservation District Use Permit for activities to the extent required by law.	Covenant #7; page 5
Actions Covered by Environmental Regulations	Compliance with all federal, state, and county environmental impact regulations is required, including the environmental review process (Chapter 343, HRS; *see* Table 6)	Covenant #50; page 18
Waste and Improper or Offensive Uses: – Wasting, stripping, causing a nuisance, or improper or offensive uses of the premises is prohibited	Lessee required to take actions to prevent or correct erosion or substantial increases in noxious weeds in uncultivated portions of the premises	Covenant #6 (page 5); *See* Definition of "Waste" (page 21)
Repairs and Maintenance: – Keeping the premises in good order and in a good condition	Lessee required to repair and maintain all buildings, structures, improvements, and landscaping, including those currently existing or subsequently constructed or installed.	Covenant #10 (page 6)

Table 5: Approvals or Permits Required by Lease Agreement

Actions Requiring Department Approvals	Requirements	Lease Covenant
Waste and Improper or Offensive Uses: – Cutting down, removing, or destroying any tree on premises	DLNR approval required	Covenant #6 (page 5); *See* Definition of "Waste" (page 21)
Improvements: – Placing or installing any additional building, structure, or improvements – Demolishing, removing, modifying, or relocating any existing building, structure or improvement	Prior written approval of DLNR Chairperson and compliance with any conditions imposed by the Chairperson	Covenant #9 (pages 5-6)
– New construction, improvements, rehabilitation, relocation, demolition, or major site work affecting historic integrity of recreation-residence or district	Improvements shall comply with "Design Guidelines"	Covenant #9 (page 6)
Historic Properties: – Land alteration or use uncovering unidentified historic property, burial sites, or human remains	Lessee, including employees or representatives, must stop all work immediately and contact SHPD (808 692-8015) and comply with Chapter 6E, HRS (State historic preservation law)	Covenant #39 (page 15)
Utility Installation: – Installation of on-site utilities, including water, and sewage treatment, and closing existing cesspool	Conform to prevailing State and Kauaʻi County building and health requirements or codes, including Department of Health and Conservation District Use approval Permit if applicable	Covenant #40 (page 15)
Water Pipeline Maintenance: – Maintaining water supply laterals from premises to main water lines, including installing, maintaining, and repairing all pipes and fixtures	DLNR approval of plans and specifications for water line and fixture installation required	Covenant #41 (page 15)

State Historic Preservation Division (SHPD):

Chapter 6E, HRS, and implementing regulations HAR Chapters 13- 275 through 13-284 and 13-300, are intended to provide for the protection and use of historic properties for the benefit of the public and to give due consideration to these properties through the land use regulatory and planning process. SHPD oversees historic preservation compliance and makes the final determination on whether any historic sites exist on a property, their historical significance, and treatment.

For the recreation residences, SHPD will make the final determination on whether any proposed alterations are consistent with the Design Guidelines and that the adverse effects of these alterations are therefore mitigated. The role of HRS Chapter 6E and SHPD in the development and implementation of the Design Guidelines is discussed in Chapter 1.

Hawaiʻi Environmental Review Process (Chapter 343, HRS)

State Parks is responsible for complying with Hawaiʻi's environmental review law (HRS, Chapter 343) for any improvements or new uses proposed within the recreation residence lots. All actions proposed by Lessees should fall within one of the "Exempted classes of action" set out in the administrative rule (HAR §11-200-8) which implements HRS, Chapter 343. Environmental Assessments (EA) are not required for exempted actions. Actions not covered by the exemption list

(i.e., those requiring an EA) are probably not allowed under the lease agreement or the Conservation District regulations. If a particular project is not an exempted action but is consistent with the lease agreement and is approved by the State, the Lessee must provide State Parks with sufficient information to complete the EA process. State Parks would file the EA for the proposed improvements or uses on behalf of the Lessee.

Exempt classes of actions that could apply to the recreation residence lots are summarized in Table 6. These exempt classes, along with the general Conservation District project evaluation criteria, effectively characterize the kinds of actions that are allowable and provide an upper threshold for appropriate projects.

Conservation District Use

Kōkeʻe and Waimea Canyon State Parks, including the recreation-residence lots, are within the Resource Subzone of the Conservation District. All proposed improvements or uses within the recreation residence lots must be consistent with the applicable Conservation District statute and regulations (HRS Chapter 183C; HAR Chapter 13-5). Lessees will not need to apply for Conservation District Use permits for actions subject to Conservation District review because State Parks, the agency with management jurisdiction over these properties, is responsible for ensuring that the Conservation District requirements are meet. State Parks will consider the Conservation District requirements when it reviews proposed improvements submitted in accordance with the Design Guidelines and lease agreement.

It is currently DLNR policy that its Divisions do not need to complete the Conservation District application and permit process set out in HAR §13-5-22 through §13-5-45 if the proposed improvements involve “non-conforming” uses on lands managed by the Division and these uses are consistent with the Division’s mandated responsibilities. In this case, the recreation residence lots meet the definition of non-conforming uses established by the Conservation District statute because they were used for this purpose prior to October 1, 1964, the date on which the Conservation District was established (HRS §183C-2 and 5; HAR §13-5-2). Providing and maintaining recreation uses is clearly within the mandate of State Parks.

State Parks will apply the following criteria when evaluating the merits of proposals submitted by lessees [HAR §13-5-30(c)]:

- The proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community, or region.
- The proposed land use, including buildings, structures, and facilities, shall be compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.
- The existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, whichever is applicable.
- Proposed land use will not be materially detrimental to the public health, safety, and welfare.

Because Kōkeʻe and Waimea Canyon State Parks are located entirely within the State Conservation District, County zoning and land use regulations do not apply. Proposed projects do not fall under the jurisdiction of the Kauaʻi County Planning Department.

Wastewater Treatment:

All individual wastewater systems, existing or proposed, on lands belonging to the State of Hawaiʻi are regulated by the Wastewater Branch, Department of Health (HAR, Chapter 62). Most recreation residences rely on cesspools installed when the residences were first constructed or when indoor plumbing replaced outhouses. Any alteration of existing cesspools, including cesspool closures, or installation of new cesspools is likely to require a permit from the Wastewater Branch. This is also true of other wastewater systems that serve group camp facilities (e.g., septic tanks, leach fields).

Lessees planning major interior renovations, additions to their residences, or the construction of a new residence may be

Table 6: Environmental Review Process - Exempted Classes of Action (HAR §11-200-8)

• Operations, repairs, or maintenance of existing structures or topographic features • Involves negligible or no expansion or change of use beyond that previously existing.
• Replacement and reconstruction of existing structures • New structure located on same site • Will have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced
• Construction and location of single, new, small structures • Alterations and modifications to the new structures • Limited to: – Single-family residence less than 3,500 square feet not in conjunction with the building of two or more such units. – Multi-unit structures designed for more than four dwelling units if not in conjunction with the building of two or more such structures – Extensions of water, sewage, electrical, gas, telephone and other essential public utility service
• Minor alterations in the conditions of land, water, or vegetation
• Construction or placement of minor structures accessory to existing facilities
• Interior alterations such as partitions, plumbing, and electrical conveyances.
• Demolition of structures • Except any historic site designated in the National or Hawaii register of Historic Places or Chapter 6E, HRS.

Note: HRS Chapter 343 guidance documents warn that otherwise exempt actions could require an Environmental Assessment if they occur in particularly sensitive areas or could have a cumulative impact. State Parks will consider these factors when reviewing proposed improvements. There is also a State Parks specific "Exemption List" (Docket 91-Ex-2, December 4, 1991) but these exemptions apply to larger scale improvements appropriate to developed areas and facilities used by the public for park purposes.

required to alter or upgrade their wastewater system and thus need a Wastewater Branch permit. This is particularly true of changes that could affect the system's capacity. Lessees should contact the Environmental Health Services Division at the Kauaʻi District Health Office for guidance:

Environmental Health Services
Department of Health, State of Hawaii
3040 Umi Street
Lihue, HI 96766
Phone: 808-241-3323
Fax: 808-241-3566
www.hawaii.gov/health

Department of Public Works, County of Kauaʻi

Building Division: Building, Electrical and Plumbing Permits:

New construction must conform to all applicable building codes and their local amendments as administered by the County of Kauaʻi Building Division, Department of Public Works. Under Section 105.2.19 (Work Exempt from Permit), County of Kauaʻi Building Code, work on buildings or premises owned by the State of Hawaiʻi are exempt from Kauaʻi County building permit requirements "except where permits are specifically requested" by the State.

In the case of the recreation residences, State Parks will request that Kauaʻi County Building Division review and issue permits for all improvements that would require permits under the County's existing permit process. Lessees need to obtain all applicable building permits before State Parks will issue its final approval of a project. This will help insure the long-term structural stability and safety of the residences.

Most building permit thresholds that apply to the recreation residences have been integrated into the "Levels of Design Review" (e.g., Tables 1 and 3). For example, repair projects costing less than $10,000 will not need a building permit.

Historic buildings are permitted leniency in Chapter 34: "Existing Buildings" of the 2006 International Building Code, as amended. Repairs, alterations, and additions necessary for the preservation, restoration, rehabilitation, or continued use of a building or structure may be made without conformance to all the requirements of this code when authorized by the building official with the concurrence of the SHPD, provided:

1. The building or structure has been designated as having special historical or architectural significance and is, thus, a contributing feature of the historic district.
2. Any unsafe conditions are corrected.
3. The restored building or structure will be no more hazardous based on life safety, fire safety, and sanitation than the existing building.

Owner-Builder Regulations

Chapter 444 of the Hawaii Revised Statutes (HRS) requires that a licensed contractor be hired for any construction work which is more than $1,000 or for which a building permit is required. The contractor is considered the responsible and liable party of record for the construction described in the permit.

Lessees who are building or improving their recreation residences can register as an Owner-Builder with the County Building Division. This exempts owners (i.e., Lessees) from the requirement to be licensed as contractors, yet allows them to obtain building permits. As an owner-builder, you are acting as your own general contractor overseeing that the work complies with all applicable laws, building codes and zoning regulations. It is the owner-builder's responsibility to insure that all subcontractors hired by them have the appropriate licenses required by state laws and county ordinances. Further, all electrical and plumbing work must be performed by contractors licensed to perform that work.

The owner-builder may be acting as the employer of a worker or unlicensed contractors that they hire. As an employer, they must comply with all employer requirements such as deducting and paying the State, FICA, and withholding taxes, and providing unemployment, temporary disability and workers' compensation insurance for those workers.

For more information on Building Permits or Owner-Builder Regulations, contact:

County of Kauai – Department of Public Works
Building Division
4444 Rice Street, Suite 175
Lihue, Kauai, HI 96766-11340
Phone (808) 241-4854
www.kauai.gov/publicworks/building

Engineering Division: Grading, Grubbing, Excavating, and Stockpiling Permits

All grading, grubbing, or stockpiling within the recreation residence lots must conform to the applicable ordinance administered by the County of Kauaʻi Engineering Division, Department of Public Works. State Parks will specifically request that the Engineering Division review and issue permits for those actions requiring permits under the Kauaʻi County grading, grubbing and stockpiling ordinance. The major grading and grubbing thresholds have been integrated into the "Levels of Design Review".

For information on grading and grubbing permits, as well as Best Management Practices (BMP) for Sediment and Erosion Control contact:

County of Kauai – Department of Public Works
Engineering Division – Design and Permitting
4444 Rice Street, Suite 175
Lihue, Hawaii 96766-1340
Phone: 241-4891
http://www.kauai.gov/publicworks/engineering

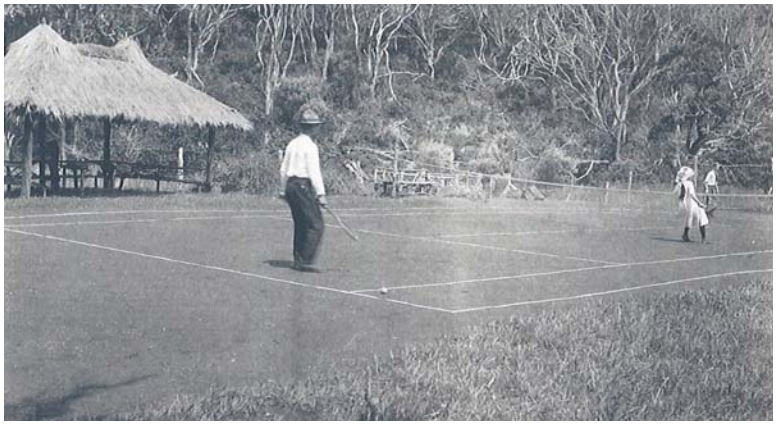
Kauaʻi Historic Preservation Review Commission (KHPRC)

To provide local guidance on historic preservation issues, the County adopted Ordinance No. 496 creating the Kauaʻi Historic Preservation Review Commission. Appointed by the Mayor and confirmed by the County Council, the KHPRC routinely advises the Planning Department, Planning Commission, and Department of Public Works on permits and agency projects that involve historic sites, structures, or districts. The Planning Department provides staff support for the KHPRC monthly meetings. The Commission typically coordinates project reviews with the SHPD.

State Parks will request that all recreation residence improvements requiring County or State permits be reviewed by the KHPRC. The design review process will benefit from the locally-based experience and perspectives of the Commission members, particularly when the appropriateness and feasibility of various design options are being explored.

DEVELOPMENT OF ARCHITECTURAL STYLES

A detailed history of the Kōkeʻe, Halemanu and Puʻu ka Pele Camp Lots is included in Appendix A of this report. During the earliest days of "camping" at Kōkeʻe, a variety of temporary and permanent camp structures were built. Valdemar Knudsen's earliest shelter at Halemanu was reportedly a Hawaiian-style thatched house. Even after the construction of Knudsen's cabin in 1868, temporary canvas shelters were built, including octagonal tents, "pup" tents, and gable-roofed tents, often using available tree branches to support the canvas walls. A 1913 photograph showed a shelter with a Hawaiian thatched roof adjacent to Knudsen's tennis court.



Early photographs also demonstrate that a vernacular style with "Kōkeʻe rustic" elements was well developed by 1900. Kōkeʻe buildings reflected the vernacular architecture common in late nineteenth-century Hawaiʻi, featuring small, single-wall, board-and-batten structures with post-on-pier foundations and wood shingle-covered gable roofs. Cabins were unpainted, which added to the rustic character. Six-light wood-framed sliding windows were prevalent, but multiple-light single or double-hung windows were also used. Many of the earliest Kōkeʻe cabins were no more than shelters and sleeping quarters. Outhouses and often kitchens were separate facilities. Showers were built in streams. One early photograph depicted a tent kitchen.

In addition to common vernacular elements, certain "rustic" features developed that became associated with the Kōkeʻe Camps. Perhaps the most conspicuous rustic feature was porch railings fashioned of *ʻōhia* logs and branches. Another simple element was window openings covered by an awning-style wood "flap" or shutter.

Many post-on-pier foundations utilized readily available rocks and logs rather than cut lumber and concrete. Fireplaces and chimneys constructed of native rock added to Kōkeʻe's rustic charm, even though these were not unique to the area.

By the mid 1920s, summer homes were still being constructed in a "rustic-vernacular" style, but some were now displaying elements that had become common in Hawaiʻi's plantation camps. These newer summer residences were "cottage-like" and usually larger than their earlier rustic predecessors, with several bedrooms, a parlor, kitchen, and bathroom. Cottages were still of single-wall construction, but some were built using tongue-and-groove vertical-boards rather than board and batten. A noticeable difference from the earlier rustic cabin appearance was painted exterior walls. Many of the cottages featured hipped roofs and a combination of multiple-light, single or double-hung windows with a few six-light sliding windows. Porches reflected typical plantation-style details, for example, 2x4 'cross' patterned rails with 4x4 posts (*photo, right*). Attic vents were more decorative as well and not limited to a simple rectangular shape *(photo, below)*.

A few cabins built in the "plantation style" also featured Kōkeʻe rustic elements, such as ʻōhia porch railings.

Although the Vernacular Plantation Style appeared in Kōke'e about 1925, many cabins continued to be built in the Vernacular Rustic Style until the late 1950s. Generally, cabins and houses at Koke'e were vernacular in style and built using traditional materials and construction methods until the 1960s. In the late-twentieth century, houses using modern materials, such as plywood siding, aluminum-framed windows, and aluminum 'patio' doors, were constructed.

UNIQUE ARCHITECTURE AT KOKE'E

The Danford House (TMK 1-4-3-13), circa 1932, and the Hagino House (TMK 1-4-4-40), circa 1937, are exceptional for their architecture. Both houses are large in contrast to the small rustic cabins at Kōkeʻe. In accordance with the Secretary of the Interior's Standards, these buildings are exceptional historic resources that should not be replicated.

The Danford House was built in the Tudor style and is an example of outstanding architecture. It features fine architectural details such as a Hawaiian-style double-pitched roof with flared eaves[1], dormers, French doors, and a rock chimney. The house has unusual single-hung windows. Interior highlights include an open-truss ceiling and a balcony/partial second floor of rooms. The Danford House was built by a notable Kaua'i family that had been camping at Kōke'e as early as 1907. The architectural form of the Danford House is remarkably similar to the Caleb E. S. Burns Residence in Līhuʻe, which was designed by well-known Hawai'i architect C. W. Dickey in 1933.[2]

The Hagino House was built in a more vernacular style, but like the Danford House, features fine architectural details and a grander style than the average Kōke'e cabin. The Hagino House also has a Hawaiian-style double-pitched roof with flared eaves. It features large sliding windows on the front façade and a charming "Kōke'e-style" rustic porch with *ʻōhia* railings.

[1] The "Hawaiian-style double-pitched roof" is modeled on the traditional thatched roof forms found in native Hawaiian architecture. Many buildings designed by early 20tth-century architects, including Hart Wood and C.W. Dickey, featured double-pitched, usually hipped, roofs with flared eaves.

[2] See photograph in Robert Jay, *The Architecture of Charles W. Dickey, Hawaii and California*, (Honolulu: University of Hawaii Press), 1992, 152, 153.

The Danford House at Halemanu Camp.

The Hagino House, Kōkeʻe Camp Lots.

ARCHITECTURAL CHARACTER

The Kōkeʻe and Waimea Canyon Recreation Residences Historic District is primarily characterized by two architectural styles: *Rustic Vernacular,* which dates from the late 1800s to circa 1960, and *Plantation Vernacular,* which appeared from approximately 1925 to 1960. Both architectural styles were based on vernacular building styles common in Hawai'i, with additional rustic features such as *ʻōhia* (or other tree) logs and branches that were fashioned into porch railings. Vernacular materials, such as coral stone and lava rock, were featured in fireplaces, chimneys and foundations.

Rustic Vernacular Style

Dating to the late 1800s when Valdemar Knudsen built his cabin at Halemanu, this architectural style followed late nineteenth-century construction styles and methods typical in Hawai'i. "Camp cabins" at Kōkeʻe were primarily used as shelters from inclement weather; as such, structures were small buildings comprised of several rooms used interchangeably for living and sleeping quarters.

Typical "Rustic Vernacular" cabin; note the ʻōhia posts and railings.

Plantation Vernacular Style

Appearing circa 1925, this architectural style was similar to styles in Hawaii's plantation camps and consisted of small-scale cottage-type structures. These plantation-style cottages usually featured a front lanai, several bedrooms, a parlor, kitchen, and bathroom.

Typical "Plantation Vernacular" cabin.

Historic Character-Defining Features

The significant character-defining architectural features of Kōkeʻe cabins include:

Building Form, Height and Scale:

- Rectangular in form and typically small in scale.
- Small footprint (usually less than 1,000 square feet).
- One-story height.
- Kitchens, bathrooms, and toilets were sometimes separate facilities.

Roofs:

- Gable roofs, either front or side orientation, are the typical roof form on *Rustic Vernacular* cabins.
- Hipped roofs predominate the later *Plantation Vernacular* cabins.
- Shingles were sometimes used to clad the gabled end of a roof.
- Original roof materials were usually wood shingle, and were often covered with *"totong"* (corrugated iron) later. Composition shingle roofs were also used at a later date.
- Roof pitch between 30° – 45°.
- Short overhanging eaves with exposed rafters and board sheathing.
- No gutters or downspouts.
- Roofing finishes include red or green paint, and unpainted metal that was left to weather.

Shingled gable end.

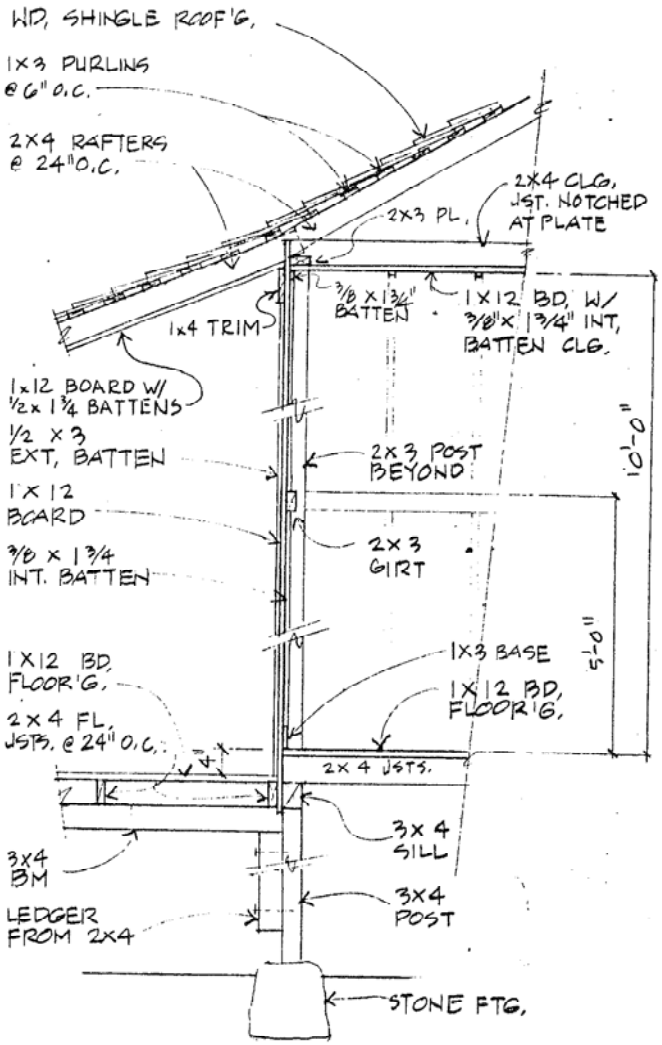
'Totong' (corrugated metal) was often installed over the remains of the original wood-shake roofing and purlins.

Side gable roof.

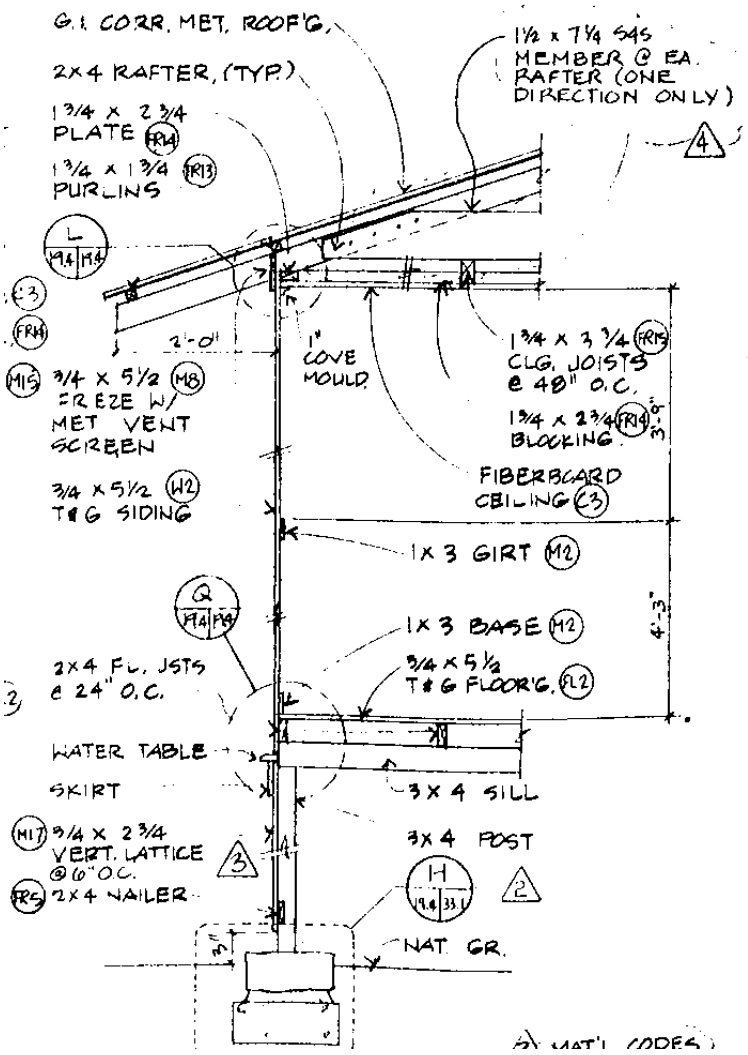
Overhanging eaves and exposed rafter tails are character-defining features and shall be preserved.

Exterior Walls and Finishes:

- Single wall construction with Douglas fir tongue-and-groove vertical boards or board-and-batten siding.
- Board-and-batten walls, typically constructed of 1x12 boards with 3-inch wide battens.
- Tongue and groove walls, typically 1x6 S4S. Some plantation style cabins feature corner boards, watercourses, and an interior girt (horizontal bracing) at mid-height.
- *Rustic Vernacular* cabins are unpainted and left to weather to a silvery gray.
- *Plantation Vernacular* cabins were usually painted, often in “plantation” reds and greens with contrasting trim.



Architectural section through a board and batten wall.



Architectural section through vertical tongue & groove board wall.

Foundations and Framing:

- Wood post-and-pier foundation with stone or concrete footings.
- *Rustic Vernacular* cabins utilize simple horizontal or vertical lath foundation skirts.
- *Plantation Vernacular* cabins feature more decorative lath or lattice skirts.

Horizontal lath skirt.

Vertical lath skirt.

Stone footing.

Diagonal lath skirt (above left); Horizontal lath skirt (left). One cabin features a unique skirt creatively done in the rustic style (above right).

Windows:

- Windows, muntins, frames, sashes, and sills were constructed of wood.
- A variety of window types were used, however six-light, sliding sash windows and multiple-light, single or double-hung windows are the most prevalent.
- Window placement was typically symmetrical, although different types of windows were used, resulting in an asymmetrical pattern.
- Window sashes are putty glazed.

Above, these wood-framed double or single-hung windows are typical. The windows were used alone, or in pairs. and other multiple combinations.

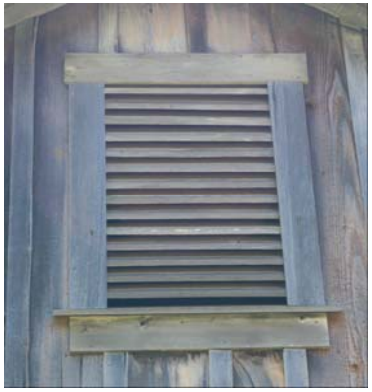
Six-light sash were typically used in sliding windows (above and left), although other muntin configurations are found (below).

Attic Vents and Shutters

- Shutters were occasionally used to protect windows openings during the occupant's absences.

Kōkeʻe's earliest buildings sometimes had window openings with awning-type shutters. The plantation-style building (below) has casement-type shutters. These historic features should be maintained.

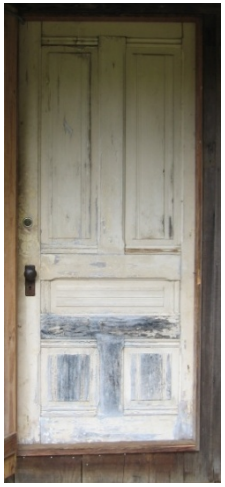
- *Rustic Vernacular* cabins feature louvered, rectangular-shaped attic vents built under the gable and left unpainted.
- *Plantation Vernacular* cabins feature louvered attic vents constructed in various shapes.



A pair of unpainted board-and-batten doors is a character-defining feature on this historic Kōkeʻe cabin.

Doors

- Typical door styles included:
  - Panel doors in a variety of patterns
  - Tongue-and-groove or board-and-batten doors
  - Multiple-light "French" doors
- Doors and frames were constructed of wood.
- Simple, wood-framed screen doors were sometimes used.
- Bronze or cast metal locks and knobs, some ceramic knobs. Strap hinges are common.



A variety of paneled doors were used, including a "bible-over-cross" pattern (left) and the more common five-panel (center).Multi-light French doors were prevalent in Kōkeʻe and were often left unpainted.


A variety of unpainted, rustic doors were built using vertical boards. Doors were sometimes used in pairs. Strap hinges were typical door hardware.


Ten-light "French" doors with stylistically appropriate screen doors.

Hardware:

- Door hardware was "traditional" and utilitarian.
- Bronze or cast metal hardware, including mortise locks with simple roses or beveled back plate plates.
- Porcelain or cast-metal knobs.



Left, a brass doorknob with beveled back plate; and a white porcelain knob with rosette and keyhole represent typical door hardware. Surface-mounted 'rim locks' (right) are also found on early Kōkeʻe cabins.

Lanai and Porches

Lanai and porches were a functional extension of the main house and served as a means to enjoy the traditional "outdoor life" popular at the Kōkeʻe Camps.

- Larger *lanai* and porches developed later in Kōkeʻe's history.
- Many of the porches in the *Vernacular "Rustic Style"* architecture were small, simple and covered with a shed roof. These simple porches that were little more than stoops were a functional extension of the main cabin and served as a means to enjoy the traditional "outdoor life" of the Kōke'e Camps. The wide doors and porches also helped to "bring the outdoors in".

Small porches with simple shed roofs were typical of Kōkeʻe's Rustic architecture.

- Porch railings fashioned from *ʻōhia* or other logs and branches are a defining feature of Kōke'e's *Vernacular Rustic Style*.

- *Plantation-style* porches are generally inset or façade width with cross-patterned railings.

Larger, façade-width porches may have been later additions to the original rustic cabins.

Porch railings fashioned from tree branches were a feature on pioneer Valdemar Knudsen's Halemanu cabin and become a prominent, character-defining feature of Kōkeʻe's Rustic Vernacular Style.

Covered Lanai Additions

Outdoor entertainment areas have been a feature since Kōkeʻe's early days when the primary activity was to spend time outdoors. Today, some of the recreation residences feature covered *lanai* or detached shelters that are reminiscent of Knudsen's earlier structures. Most of these appear to be used primarily for outdoor dining. They are appropriate in their historic use, and provide an important extension of living space during inclement or hot weather.

Chimneys

- Masonry chimneys and fireplaces were prominent rustic features.
- Lava rock (basalt) and coral is used for chimneys, as well as foundation piers, entry step cheekwalls, fireplaces and other decorative applications.
- Rock masonry may be cut block, rough rock, or smooth river rock.

Lava rock chimneys are a character-defining element.

Coral stone

Water-worn basalt

Basalt "sugar stone"

- Historic mortar was generally quite soft, consisting primarily of lime and sand with other additives.
- Some chimneys were constructed from concrete block; others are finished with stucco over stone masonry.

- Like historic mortar, early stucco coatings were also heavily lime-based, increasing in hardness with the addition of Portland cement in the late-19th century.

Concrete block chimney

Stucco on CRM chimney

DEVELOPMENT OF A CULTURAL LANDSCAPE

Over the course of the last century, the forest environs of the Kōkeʻe Camps and Puʻu ka Pele Lots have been altered by residents into what is now recognized as a historic cultural landscape. This historic landscape reflects the physical, biological, and cultural character of the families that occupied the area. Campers brought about significant modifications to the upland forest as a result of two primary activities: clearing forest vegetation to build and enjoy recreation residences, and planting a variety of new vegetation for pleasure and/or reforestation.

Although the earliest leases for the Kōkeʻe Camps forbid campers to import alien plants without the consent of the territorial forester, there is some indication that the Territorial Division of Forestry instead encouraged campers to help with reforestation. Supervising and approving campers' planting activities would probably have been an impossible task. Instead, contemporary accounts report that campers were "expected" to plant fifty trees on their property, and evidence shows that campers most likely planted as they pleased.

Ancillary to the residents assisting the government with reforestation, Kōkeʻe campers expressed keen interest in gardening activities. Campers carefully tended ornamentals in the early 1900s, when a photograph depicted Knudsen examining his rose bushes for insect pests. It is unclear when the government began supplying water to the Kōkeʻe Camps, although Kauaʻi County furnished water to the Puʻu ka Pele Lots by the 1920s. Prior to the development of a water delivery system, gardening was usually done adjacent to streams where roses, pansies, dahlias, and other flowering ornamentals could thrive, even during the dry summer months.

Not all areas were so carefully manicured. Larger yard areas with scattered trees were often left untended so that these areas retained a naturalistic "wild woods" appearance. Picnicking was also popular. After the 1930s, Methley plum trees, introduced to Kōkeʻe by Kauaʻi forester A. J. MacDonald, became a favorite landscaping item for many cabin owners. Plum trees were planted as individual specimens or in neat, carefully planned orchards. Contemporary accounts also credit the Civilian Conservation Corps activities during the Great Depression as contributing to Kōkeʻe's landscape by providing residents with a variety of seedlings, including California redwood, Sequoia, Eucalyptus, Sugi and Black Pine, and various fruit trees, including apple, plum, and pear.

Over time, Kōkeʻe residents produced a mosaic of distinctive landscapes that displayed the following general characteristics:

- Most lots were cleared from the forest and characterized by a cabin set within an open, grassy clearing for a required firebreak. Landscape improvements were minimal, with a few planted trees along the lot entry or boundary, and ornamental vegetation often limited to the cabin's perimeter.
- Dense forest often surrounded the camp lot, which provided privacy and seclusion from neighboring lots.

- Ornamental plants, especially hydrangea, were planted around the perimeter of the house where they were watered by rain runoff from the roof.
- Many cabin owners planted fruit trees, especially plums. A few lots had orderly orchards with trees planted in regular rows.
- A few cabin owners maintained a more formal, garden-style landscape, with established flower beds, carefully groomed grassy areas, and fine specimen trees.

- Additional site features include circulation systems such as walks, paths, driveways or roads; vegetation such as trees, shrubs, fields, or herbaceous plant material; terracing, berms, grading and fences.

Rocks or logs were used for decorative effect, such as pathways, or borders for ornamental flower beds or tree groupings.

Rocks were often used for structural features such as terraces or stairs.

Lot entries featured 'carriage tracks' with little impact on the land as they were generally narrow dirt or grass tracks.

- Many cabins, especially several located in the "Water Tank Lots," have scenic mountain views. On Puʻu ka Pele Ridge, several lots had ocean views or views to Niʻihau that have since been obscured by overgrown vegetation.
- Accessory structures are also an integral part of the landscape at Kōkeʻe, including garages, carports, small cottages, and sheds.

Fences and Gates

- When used historically, fences were simple wood picket or rail, *ʻōhia* branches and twisted wire.
- Fences that define a front yard are usually low to the ground (less than 4'-0" high) and transparent in nature.

GUIDELINES FOR THE REPAIR AND REHABILITATION OF HISTORIC BUILDINGS

The Secretary of the Interior's Standards for the Treatment of Historic Properties include standards for preserving, rehabilitating, restoring and reconstructing historic buildings. These Standards were originally published in 1977 and revised in 1990 as part of Department of the Interior regulations (36 CFR Part 67, Historic Preservation Certifications).

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. Historic building materials and character-defining features are protected and maintained; however, latitude is given in the Standards for Rehabilitation and Guidelines for Rehabilitation to replace extensively deteriorated, damaged, or missing features using either traditional or substitute materials.

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION:

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 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 design in 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 in the gentlest means possible.

8. Significant archaeological 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.

THE SECRETARY OF THE INTERIOR'S GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

The Guidelines were developed to supplement the Secretary of the Interior's "Standards for Rehabilitation" by providing general design and technical recommendations. The Guidelines contain specific recommendations for elements such as roofs, windows, and other similar features. For further information, a reference list follows each section, and a glossary of architectural terms and a list of sources for materials are included in the appendices.

IDENTIFY, RETAIN, AND PRESERVE

It is important to identify, retain and preserve the form and detailing of architectural materials and features that define the historic character of the building. Changes to historic buildings should be minimized, but it is recognized that changes are sometimes required to prolong the life of historic resources.

PROTECT AND MAINTAIN

Protection generally involves the least degree of intervention and is preparatory to other work. For example, protection includes maintaining historic materials through treatments such as rust removal, caulking, limited paint removal, and re-application of protective coatings; or installation of fencing, protective plywood, alarm systems, and other temporary protective measures. These treatments should be attempted prior to undertaking more extensive work.

REPAIR

Repair is recommended when the physical condition of character-defining materials and features warrants additional work. Guidance for the repair of historic materials begins with the least degree of intervention possible, including such techniques as patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading according to recognized preservation methods. Repair also includes the limited replacement in kind of extensively deteriorated or missing parts of features when there are surviving prototypes (e.g., steps, windows, attic vents, or stone work). Although using the same kind of material is always the preferred option, substitute material is acceptable if the form and design is consistent with the visual appearance of the original.

REPLACE

An entire character-defining feature may be replaced with new material if the level of deterioration or damage precludes repair (e.g., an exterior window shutter, a fireplace, or a complete porch). As with repair, the preferred option is always replacement of the entire feature in kind (i.e., with the same material). Because this approach is not always technically or economically feasible, provisions are made for the use of compatible substitute materials.

DESIGN FOR MISSING HISTORIC FEATURES

When an entire feature is missing (e.g., a decorative railing, or entrance door) it no longer plays a role in physically defining the historic character of the building unless it can be accurately recovered in form and detailing by historic research. If adequate historical, pictorial, and physical documentation exists so that the feature can be accurately reproduced then designing and constructing a new feature is appropriate. However, a new design that is compatible with the remaining character-defining features may also be acceptable. The new design should always take into account the size, scale, and material of the historic building itself and, most importantly, not create a false historical appearance.

REMOVING EXISTING FEATURES FROM OTHER PERIODS

Lessees should document materials and features dating from other periods prior to their alteration or removal. Documentation generally consists of photographs and/or drawings. Consult with the State Parks or the State Historic Preservation Division prior to commencing work.

MASONRY

IDENTIFY, RETAIN AND PRESERVE

Identify, retain, and preserve masonry features that are important in defining the overall historic character of the building, including chimneys, steps, and walls; and details such as joint tooling and bonding patterns, coatings, and color.

PROTECT AND MAINTAIN

- Inspect the existing condition of the masonry to identify cracked, spalling, or deteriorated masonry, and decomposed or weathered mortar. Inspections should occur on a 5-year schedule.
- Seal the joints between masonry and siding with a paintable or color-matched caulk to prevent water penetration.
- Insure that improper water drainage is not contributing to deterioration of materials or features.

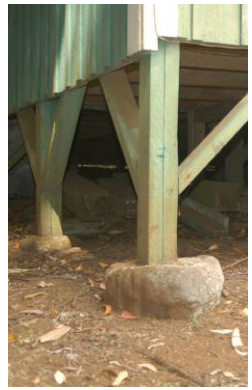
Lava rock (left) and stucco on CRM (right) chimneys are character-defining elements and should be preserved.

- Prevent water from gathering at the base of a wall by insuring that the ground slopes away from the wall. If there is excessive ground water, install drain tiles around the structure.
- Prevent rising damp by applying a dampproof course just above the ground level with slate or other impervious material. This type of treatment requires the advice of knowledgeable preservation architects or engineers.
- Remove climbing vines from chimneys and foundations. They trap moisture against the building and harbor destructive insects and birds.

DO NOT:

Ø *Apply waterproof, water-repellent, or non-historic coatings in an effort to stop moisture problems; they often just trap moisture inside the masonry and accelerate damage.*

Lava rock entry stairs



Stone footing

Cleaning

Masonry should be cleaned to halt deterioration or remove heavy soiling by a knowledgeable cleaning contractor. Investigate a contractor's cleaning methods, materials, and, most importantly, inspect their previous work or check references. Look for damage caused by their cleaning such as chipped or pitted stone, washed out

mortar, or a residue or film. Whether Lessees hire professionals or clean the masonry themselves, the following guidelines should be followed:

- Clean unpainted masonry with the gentlest means possible. The best method is generally low-pressure water wash with a non-ionic detergent.
- Test cleaning materials on a small inconspicuous part of the building. Observe the test over a sufficient period of time in order to determine the gentlest cleaning method. Some old stone is too soft to clean and can be damaged by detergents and the pressure of the water.
- Prevent moss build up to help prevent the absorption of moisture. Remove moss frequently with natural bristle brush and diluted bleach solution.

DO NOT:

Ø *Clean with chemical methods that damage masonry or leave chemical residue on the masonry.*

Ø *Use sandblasting or high-pressure water wash. These techniques can damage the masonry. Abrasively blasted brick and stone will spall (crumble) and the roughened surface will accumulate dirt and pollutants much faster than the original surface.*

Ø *Needlessly clean masonry in order to attain a 'new' appearance.*

Chimney Cleaning and Maintenance

- Burn only seasoned wood. Unseasoned wood will burn less hot, resulting in more creosote buildup. Have a qualified person clean the chimney regularly of creosote buildup.
- Install a chimney cap to keep out rain and deter birds and other animals from coming down the chimney.
- Make sure the flue damper opens and closes properly.
- Use a decorative screen to keep burning embers and sparks from landing in the room.

DO NOT:

Ø *Use flammable liquids, such as lighter fluid, to ignite a fire.*

Ø *Use the fireplace to burn telephone books, cardboard, wrapping paper, catalogs, newspaper, or Christmas trees.*

Ø *Leave a fire unattended.*

Concrete block chimney with cap.

For more information, contact the Chimney Safety Institute of America at 1-800-536-0118 or **http://www.csia.org**

Painting and Waterproofing

- Use vapor-permeable, mineral-based paints specifically formulated for historic masonry only after correcting drainage problems.
- Repaint with colors that are historically appropriate to the building and to the district.

Repainting Method:

1) Remove damaged or deteriorated paint only to the next sound layer by hand scraping prior to repainting.
2) Clean with a low pressure water wash if the building is dirty. Allow masonry to dry out for several days before applying paint.
3) Prime and repaint with a breathable paint system, such as 100% acrylic latex or mineral-based paint.

DO NOT:

- Ø *Completely remove paint from historically painted masonry unless it is unsound. The paint may have adhered to the masonry and breaking that bond can cause damage.*
- Ø *Paint masonry that was historically left unpainted.*
- Ø *Remove paint by sandblasting, high pressure water blasting, or caustic solutions. These methods will permanently damage the masonry.*
- Ø *Use oil-based, urethane, or epoxy paints that will trap moisture and cause spalling*.

REPAIR

- Damage or deterioration of structural load-bearing members should be investigated by a licensed structural engineer familiar with the Secretary of the Interior's Standards for the Treatment of Historic Properties.
- Repair, stabilize, and conserve fragile masonry by using well-tested strengtheners or consolidants.
- Repair damaged masonry features by patching, piecing in, or consolidating instead of replacing an entire masonry feature. Patch stone in small areas with cementitious patching compound. Like mortar, this should be weaker than the masonry being repaired. This type of work should be done by skilled craftsmen.
- Repair stucco by removing loose material and patching with a new material that is similar in composition, colors, and texture.
- Repair cracks, not only may they be an indication of structural settling or deterioration, they may also allow moisture penetration.

Mortar joints inappropriately sealed with caulk.

Repointing

Masonry should be repaired by repointing the mortar joints when there is evidence of deterioration, such as disintegrating mortar, cracks, loose stone, damp walls, or damaged stucco.

Mortar in older houses is either soft (lime-based) or hard (Portland cement-based). The advantages of using lime as the binder is that it hardens so slowly that it doesn't crack and its porosity allows water vapor to escape. In the 20th century, Portland cement replaced lime. Its chief asset is that it cures quickly. Unlike lime mortars, Portland cement shrinks, doesn't let water vapor escape or permit any movement in the stone. If your stone walls were pointed with lime mortar and you repair them with Portland cement, the new mortar may cause the stone to crack or otherwise fail.

- Duplicate mortar in strength, composition, color, and texture. Match original mortar joints in width and profile.
- Determine if original mortar is lime or Portland cement based, by dabbing a little vinegar on the mortar to see if the vinegar bubbles a bit. If it does, lime is present. Portland cement will not react with the vinegar. If in doubt, repoint with a softer lime-based mortar mix. Avoid Portland cement mixes, such as "Quikcrete", which may cause the masonry to fail.

Repointing Method:

1) Remove mortar to a minimum depth of 3/4 inches or to sound mortar. Hand chiseling is the preferred method.
2) Use a mortar mix that matched the original. Use sand that matches grain size in the original mortar. Use clean, potable, neutral pH water.
3) The joint should be filled with successive lifts of approximately 1/4 inch of mortar. After the surface is leveled, the joint should be tooled to match the historic joint.

DO NOT:

- Ø *Remove mortar with electric saws or hammers, since power tools cannot be effectively controlled.*
- Ø *Repoint with a synthetic caulking compound.*
- Ø *Use a "scrub" coating technique to repair mortar instead of traditional repointing.*

Cracked Concrete

Cracked concrete may be caused by shrinkage, settlement, tension, inadequate rebar cover, corrosion of rebar, and temperature changes. Nonstructural and hairline cracks that show no sign of worsening normally need not be repaired.

- Repair cracks less than approximately one-sixteenth of an inch with cementitious mortar.
- Larger cracks should be routed (widened and deepened) minimally before patching to allow sufficient penetration of the cementitious patching compound.
- Professional consultation is recommended where noticeable cracking occurs, as this may require designing new footings, replacing major sections of the foundation, or removing and replacing deteriorated or inadequate reinforcing.

DO NOT:

- Ø *Undertake superficial repairs, such as caulking, that do not address underlying causes of failure and may only aggravate problems.*

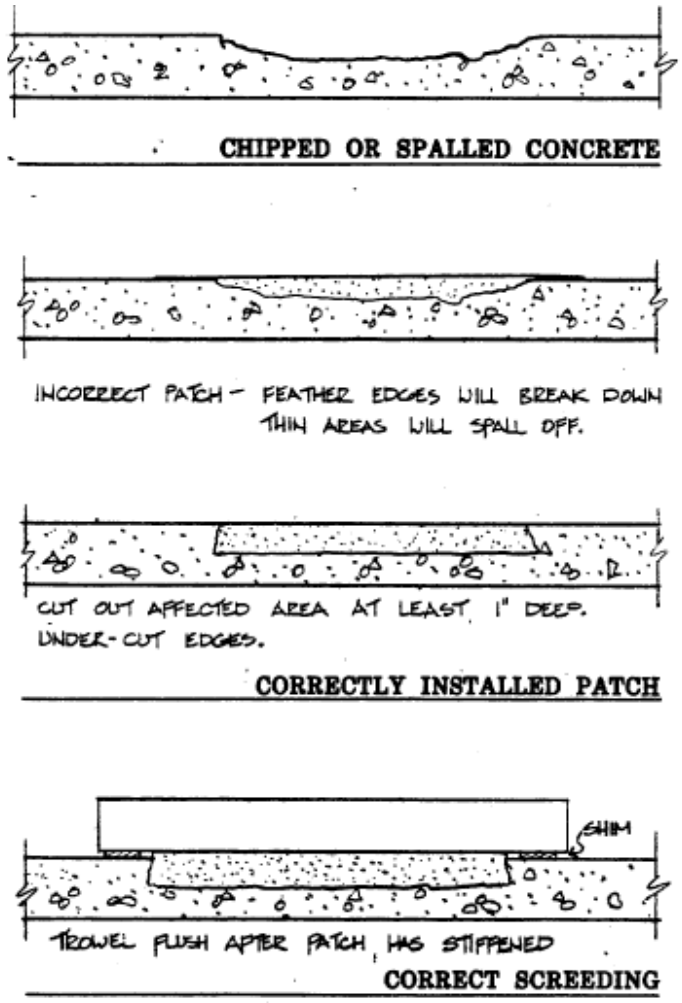
Concrete Spall Repair

Spalling is the loss of surface material that usually occurs when reinforcing bars corrode and create stresses within the concrete.

- Treat minor spalls and damage less than 2 inches deep with no exposed reinforcing with a pre-formulated patching compound. Deeper spalls will require more preparation.
- Major spalls include those deeper tham 2 inches or with exposed reinforcing bar. Major repairs should be supervised by an experienced contractor, architect or structural engineer.

Concrete Spall Repair Method:

1) Sound for delamination and remove loose concrete with hand-held hammers and chisels. Cut or chip edges perpendicular to surface of concrete to a minimum depth of 1 inch (providing slightly undercut edges for anchoring).
2) Remove rust from exposed metal with a stiff wire brush. If more than half the circumference of any rebar is exposed, remove material from around entire circumference. Severely rusted bars must be cut out and replaced.
3) Clean surface with a low-pressure wash to eliminate dirt, grease, and scale. Dry thoroughly and paint steel immediately with a zinc-rich, corrosion-inhibiting primer.
4) Prime area with acrylic latex bonding agent.
5) Dry pack area with cementitious patching compound to match original finish and composition. Finish and cure. Do not feather over existing concrete.
6) Apply a mineral-based water-repellent. If the original surface was painted, paint the patch with 100% acrylic latex or a hybrid (silicone-modified) mineral-based coating intended for previously painted surfaces.



REPLACEMENT

Replace extensively deteriorated or missing parts of masonry features to match the original.

- Preserve all stone, brick and original concrete. If replacement is necessary, it should match the existing masonry as closely as possible. Use replacement stones that are a close match to original stone in material, design, color, and texture. This stone may be salvaged from demolished structure or relocated from an area where removal has a minimal effect on the historic character of the building, or obtained from local sources.
- Remove stone by hand chiseling. Ensure that adjacent stone is not damaged.
- Match color of historic mortar as closely as possible using natural materials. Always test color by either wetting original or allowing a test sample to dry before repointing.

Design for the Replacement of a Missing Historic Feature

- Design and install a new masonry feature, such as steps or a chimney, when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

REFERENCES

The following publications contain more detailed information about masonry. They are available from the National Park Service or at www.cr.nps.gov/linkpubs.html.

Preservation Brief #1 - The Cleaning and Waterproof Coating of Masonry Buildings

Preservation Brief #2 - Repointing Mortar Joints in Historic Brick Buildings

Preservation Brief #6 - Dangers of Abrasive Cleaning to Historic Buildings

WOOD

IDENTIFY, RETAIN AND PRESERVE

Identify, retain, and preserve wood features that are important in defining the overall historic character of the building. For the purposes of these Guidelines, wood includes all wood siding, shingles, decorative wood elements, and framing. The flexibility of wood has made it the most common building material throughout much of Hawai'i's building history.

Begin with the least invasive historic-building maintenance treatment and do not take the next step unless it is necessary. Perform simple maintenance first; repair as needed; replace damaged or missing parts in-kind; replace the entire unit in-kind only if it cannot be repaired. Do not give up too soon on the idea of repairing historic wood elements.

PROTECT AND MAINTAIN

Inspect, evaluate, and monitor wood surfaces for signs of excessive water, rot, and pest infestation; keep all surfaces primed and painted in order to prevent wood deterioration from moisture. Peeling paint, spongy wood, discoloration, staining, and the presence of fungi are clear indicators of rotting wood and/or termite infestation.

- Remove non-original siding that has been installed over original siding. Cheap or improperly installed non-original siding may cause deterioration of the original siding.
- Keep roofs and foundations clean of leaves and debris. Termites use these materials to build shelter tubes connecting their underground colonies to your home.
- To reduce risk of termite infestation, keep mulch, shrubs or other plants away from the foundation of your house. Don't affix wooden trellises to exterior walls. Keep scrap lumber away from the house. Remove infested trees and stumps.
- If you have a leaking water spigot/faucet on the outside of your house, fix the leak. Be certain that the downspouts from the gutters drain away from the house. Be certain that the finished soil grade also drains away from the house. Avoid having a sprinkler system that splashes onto your house or a sprinkler system where the emitter heads are nearly adjacent to the outside walls of your house.

- Keep paint films and sealant joints in good condition. Check paint and flashing integrity before the rainy season.
- Apply environmentally safe chemical preservatives to wood features, including post ends at foundations, which are exposed to decay and are traditionally unpainted.

DO NOT:

- Ø *Store flammable materials under buildings or stairs (including firewood).*
- Ø *Remove elements, such as wood moldings, trims or other details that are important parts of historic buildings, since removing or changing them will alter the character of the structure.*

Painting

Wood on older buildings generally has been painted with oil-based paint; therefore an oil primer with two coats of 100% acrylic latex paint should be used when repainting. Latex paint will not adhere to chalked oil paint without a proper primer. New wood can be painted with a three-coat (one prime and two finish coats) 100% acrylic latex system.

- Clean surface with household detergent and water to allow new paint to adhere.
- Remove damaged or deteriorated paint to the next sound layer using the gentlest means possible such as hand sanding and hand scraping. Remove all paint down to the bare wood only in extreme cases where the paint has blistered and peeled to the bare wood. This condition may be only in certain places such as sills or porch rails when there is excessive paint build-up or where moisture is a problem.
- Use chemical strippers to supplement the above technique when more effective removal is required. Be certain to follow directions to thoroughly neutralize chemical strippers after use or new paint will not adhere.

DO NOT:

- Ø *Completely remove paint when it is soundly adhered to the wood.*
- Ø *Use destructive and dangerous paint removal methods such as a propane or butane torch, sandblasting or water blasting.*
- Ø *Allow wood to be in contact with chemical strippers too long so that the wood grain is raised or the surface roughened.*

REPAIR

Because of age, insects, moisture and lack of maintenance, some wood features may be deteriorated beyond salvage. Every effort should be made to restore or replace damaged wood in-kind. Don't be fooled by the poor condition of paint. In most cases, the wood underneath the layers of chipping or peeling paint is in sound condition.

- A licensed architect or structural engineer familiar with the Secretary of the Interior's Standards and Guidelines for the Treatment for Historic Buildings should investigate damage or deterioration of structural load-bearing members to determine the extent of repair necessary.

Deteriorated post base

Damaged decking

Partially Decayed Wood:

- To test the condition of wood elements, probe the surface with an awl or knifepoint. When pried, the wood, if decayed, will pry up in short irregular pieces. If the wood is still sound, the same procedure should result in the wood's separating in long fibrous splinters.
- Remove only damaged or decayed portions of wood features. Elements that are more than 50% decayed should be reproduced and replaced.
- If painted wood is partially decayed, it can be filled and strengthened by what is known as "consolidation." Semi-rigid clear penetrating epoxy sealer is applied and saturated into the decayed wood and allowed to harden. The consolidated wood can then be patched with a wood replacement compound and sanded in preparation for painting.
- Large damaged areas and unpainted wood may be patched with a carpenter's "Dutchman" matching the original wood's species, grain pattern and direction. Glue or epoxy in place.

Fill joints after glue dries, sand smooth, and finish to match adjacent surface.

- If the wood is just beginning to rot, dry the wood thoroughly and treat it with brush-on preservative. Waterproof the wood (two or three applications of boiled linseed oil with 24 hours drying time between coats or a commercial "water seal" product) then fill any cracks and holes with wood putty and sand.

DO NOT:

Ø *Use soft vinyl spackling ("Bondo"), auto body fillers, or latex wood fillers.*

Termite Control

Termites are attracted to wood and wet soil conditions, so the goal is to keep cellulose-based products away from your house and keep things dry near the house by taking the following precautions:

- Have a professional exterminator spray the soil around the building and foundations with fipronil-based product. This treatment should be repeated every three years.
- Keep non-treated wood at least 18-inches away from soil. Keep the house and foundation dry, making sure to caulk around windows and doors. Termites thrive in moist environments.
- Watch for possible termite entry paths and try to seal them. A termite can squeeze through a 1/16-inch crack.
- Have a professional inspection done periodically, perhaps as often as once per year in a high-risk region. Amateurs seldom spot insects or damage early enough.
- Begin wood repairs only after the structure and surrounding soils are rid of the destructive insects.

DO NOT:

Ø *Use creosote-based preservatives that can change the appearance of wood features.*

Repairing Termite Damage:

1) Treat wood with a brush-on preservative, such as copper naphthante (greenish; for contact with soil) or zinc naphthante (colorless; for above ground applications).
2) Wood damaged by beetles or other boring insects may be repaired by use of penetrating epoxy consolidant. Heavily damaged sections may be replaced with a new member matching original dimensions.
3) Replacement wood should be pressure-treated or of a naturally toxic species (redwood or cedar). The preferred method is to match the original species.

CAUTION: Gases of fumigants are highly poisonous and may damage some types of metal, fabrics, and paint finishes; remove such items if possible.

Mold and Fungal Rot

Periodically inspect sills, plates, timbers bearing on masonry, ends of trusses in roof-eaves, cornices, all joints, and around doors and windows for the presence of molds and fungal rot. End grain wood is most susceptible to damage.

- Look for peeling paint, discoloration, staining, or presence of fungi. Gently probe the surface with awl or knifepoint to reveal softness.
- Correct damp conditions resulting from rain, ground water, plumbing leaks, or interior condensation.

Repair Damage from Wet-Type Fungi and Molds:

1) Thoroughly dry wood and surrounding environment.
2) Remove decayed portion and dispose of off site.
3) Treat surrounding area of remaining wood with a brush-on fungicidal preservative.
4) Repair wood as outlined earlier in this section.

CAUTION: Fungicidal preservatives are toxic and can be absorbed through skin. Wear rubber gloves when handling.

REPLACEMENT

- Ø *If damage is too extensive, replacement of individual boards or lumber sections may be necessary. The new wood should duplicate the original in dimensions, configuration, and texture. If the material has a transparent finish or has no finish (such as with wood siding) the species of wood should be the same.*
- Ø *Replacement should be limited only to damaged areas and should not be used as an excuse for wholesale replacement. If more than 50% of an object is damaged, it may be better to reproduce the entire object in new material. For major structural systems, preservation professionals should be consulted in making this decision.*
- Ø *Replace boards that are severely warped and will not lay flat. Match size, species and surface texture of original material.*
- Ø *To reduce rust staining in the future, any new material should be fastened with hot-dipped zinc coated or stainless steel nails.*

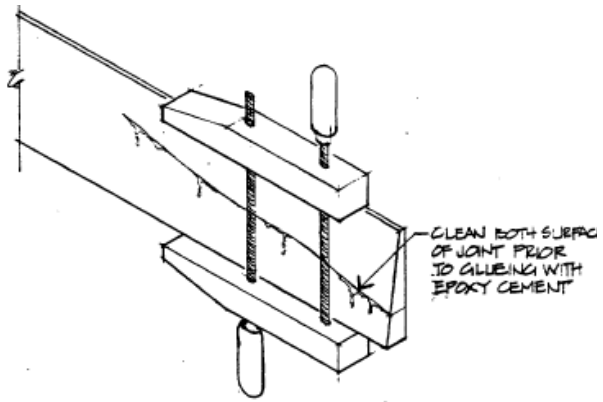
Replacement of Wood Siding:

Where necessary due to deterioration, a portion of a board (or the whole board) can be removed from a wall. The siding is usually attached either by a row of nails at both the bottom and top edges. With a circular saw or hacksaw, cut out the damaged board as close as possible to the edge of the board. Remove the damaged section of the board. The nails remaining should be cut off using a hacksaw blade (pry up the remaining boards to get to the nails, if necessary).

The new board should match the existing board in size and profile. Before installing the new board, give it a coat of preservative on all surfaces, including the back, and then primer. Install the board as you would any wood trim – nail it in place, countersink the nails, putty the nail holes and any cracks and paint the boards. Use only hot-dipped zinc coated or stainless steel nails. Pre-drill nail holes at the ends of boards to reduce splitting. Countersink and putty all nails that are exposed to view.

Warped or Split Boards:

- If splits of sufficient size to prohibit filling with putty are apparent, the easiest method of repair is to pry the crack or split open wide enough to apply a strong exterior glue. Press the sections back together and use finishing nails to hold it in place while the glue dries.



REPAIRING SPLIT SIDING BOARDS

- Larger cracks may require the removal of the board for repair. Carefully remove the split board without further damage. Clean surfaces of split and allow wood to dry thoroughly. Inject epoxy exterior glue into split and clamp tight. When glue has set, remove clamps, sand, and reinstall.

Wood Shingles:

Wood shingles, like wood siding, are subject to moisture damage and decay, and like vertical board siding, must be regularly inspected and maintained to prevent these problems. Generally wood shingles will not require total replacement, and warped or loose shingles can generally be nailed back in place. Should individual shingles need to be replaced, care should be taken to match the existing profile, shape and texture.

Reduction of Member Cross Section:

- If an intrusive element is removed and the remaining cross section of a member is adequate in strength, patch the void with tight-fitting new wood of same species, grain pattern, and texture. Glue and screw in place. Countersink and plug screw heads.
- If a structural member is overstressed, install steel reinforcement around cut-outs. If damage is extensive along full length of the member, remove and replace with new of same dimensions, grain pattern and texture. Reroute ducting, pipes, and/or conduit. Consult a licensed contractor, architect, or structural engineer.

DO NOT:

Ø *Cut, notch or drill wood members during the course of alterations or installation of mechanical, plumbing or electrical systems as it may result in the reduction of a wood members' cross-section. This can lead to overstressing of structural members and possible failure.*

REFERENCES

The following publication contains more detailed information about wood. It is available from the National Park Service or at www.cr.nps.gov/linkpubs.html.

Preservation Brief 10 – Exterior Paint Problems on Historic Woodwork

WINDOWS AND DOORS

IDENTIFY, RETAIN, AND PRESERVE

Windows are one of the most visual aspects of a historic building and help define its particular style. Windows provide light and ventilation at the interior of a building, and create a visual link to the outside. Generally, the window frames and sashes in the historic district are constructed of wood.

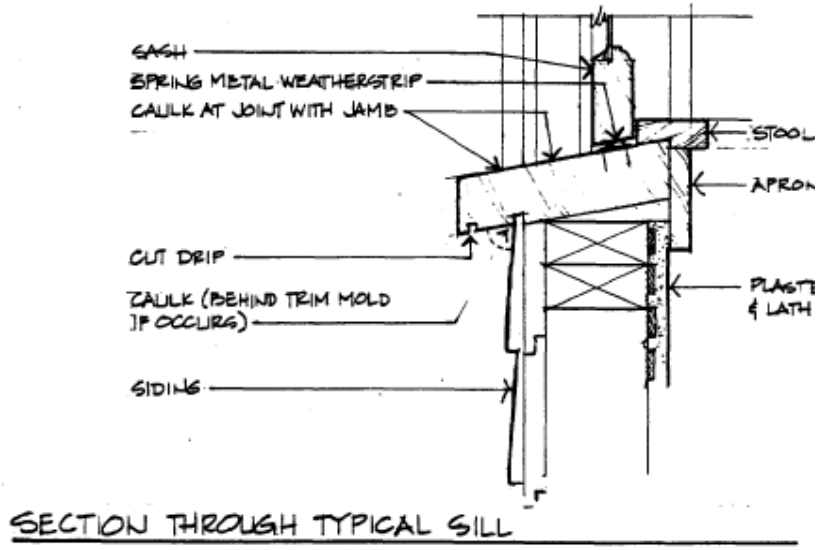
The functional and decorative features of windows are important in defining the overall historic character of the building. These features can include frames, sash, muntins, glazing, sills, and moldings, as well as exterior shutters and awnings. Altering the windows by removing components or refitting with inappropriate elements can destroy the significance and value of the historic building.

With attentive and proper maintenance and repair, original wood windows will provide energy-efficient service for the life of the building without compromise to the architectural significance of the building.

PROTECT AND MAINTAIN

Protect and maintain the wood that comprises the window or door frame, sash or panel, muntins, and surrounds through appropriate surface treatments such as cleaning, limited paint removal, and re-application of protective coating systems.

- Inspect, evaluate and monitor windows and doors for signs of peeling paint, wood deterioration, open joints around frames, sound putty, and adequate caulking.
- Keep painted surfaces well painted.
- Insure that caulk and glazing putty are intact and in good condition.
- Weatherstrip doors.
- Insure that water is not forming puddles on horizontal surfaces, which may cause deterioration. Sills and thresholds should slope away from the building.
- Inspect hardware for proper operation.



SECTION THROUGH TYPICAL SILL

Screens, Awnings and Shutters

Many of the original structures had awnings or shutters for security and weather protection. Original screens and shutters should be retained, repaired, and repainted as needed. New shutters should be sized and installed to match the actual working examples.

- Wood awnings and shutters should be used.
- Wood screen frames should be painted to match the color of the window trim, or left unpainted on Kōke'e's rustic cabins.
- The horizontal mullion that divides the upper and lower sash of the screen should align with that of the window.

DO NOT:

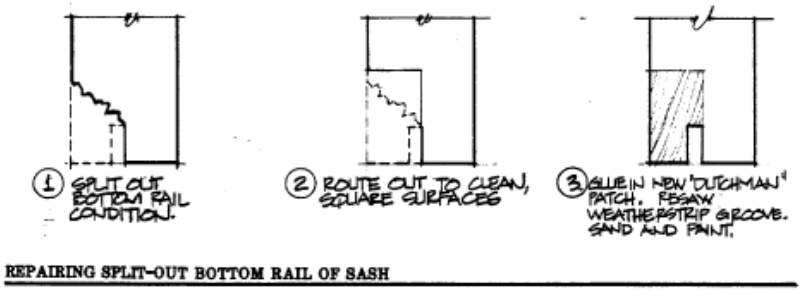
Ø *Install vinyl or aluminum screen frames on historic buildings.*

REPAIR

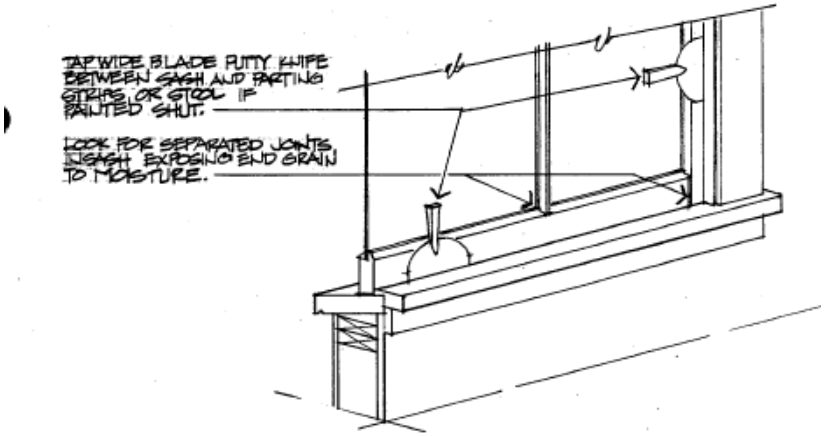
- Repair of historic windows and doors is always preferred to replacement.
- Repair original windows by patching, splicing, consolidating or otherwise reinforcing. Because of peeling paint or separation of joints, wood can appear to be in bad condition when it is in fact repairable.

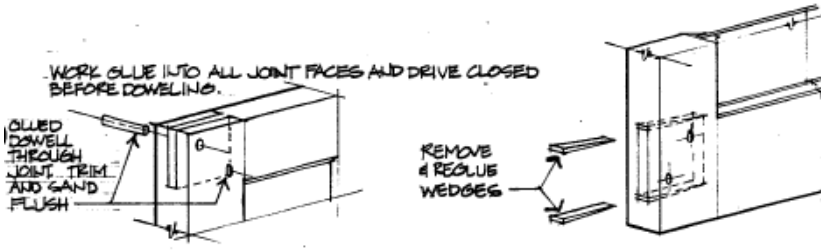
REPLACEMENT

Before replacing an entire window to be replaced, it should be examined closely to see if the wood of the window is salvageable. In many cases, a little patching, painting, and weather-stripping can restore a window to its original condition.



REPAIRING SPLIT-OUT BOTTOM RAIL OF SASH





DETAIL - HALF LAP JOINT AT SASH CORNER THROUGH TENON JOINT AT SASH CORNER

- Replace in kind an entire window or door that is too deteriorated to repair using the same sash and panel configuration and other design details.

- Replacement windows and doors should be the same size and materials as the original. The window and door proportions and muntin patterns represent vital elements in the overall character of the cabin.
- If more than 50% of a sill or threshold is rotted, replace entire member with new wood of same species, grain pattern and dimensions. Remove window sash or door panel from frame before making repairs. Treat all surfaces with water repellent preservative and back prime before installing.

- Replace non-original jalousie, plate glass, and aluminum windows that detract from the historic character of the building.
- Custom-built replacement windows suitable for most early 20th century buildings may be available commercially. Good millwork shops can duplicate parts, such as muntins or bottom rails, which can be placed in the old sash.

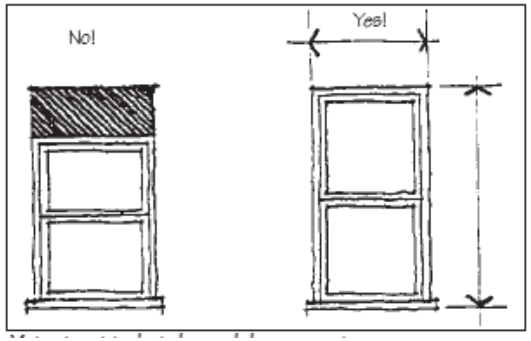
DO NOT:

Ø *Change the number, location, size or glazing pattern of windows or doors by cutting new openings, blocking in windows, or installing replacement sash that does not fit the historic window opening.*

Ø *Change the historic and architectural appearance of windows or doors by using inappropriate materials or finishes which radically change the sash or panel, depth of reveal, muntin configuration, reflective quality or color of the glazing or the appearance of the frame.*

Ø *Replace original windows or doors with stock items from building supply companies; these doors are more appropriate for new suburban dwellings than historic houses.*

Ø *Block down existing openings to accommodate a smaller stock replacement window.*



Ø *Alter a window or door to give an appearance that was not originally intended, such as adding sidelights and fanlights on a front entrance.*

Ø *Use substitute materials such as vinyl or aluminum.*

Ø *Add shutters that are the wrong size, type or material (such as vinyl) or add shutters to windows where they were not intended historically.*

Appropriate window hardware includes brass sash locks and lifts.

Replace Broken or Missing Sash Cords and Pulleys:

1) Remove sash to access sash weights and pulleys through removable panels in jambs or by removing interior casing. Stops and parting beads need only be removed from one side.
2) Remove remnants of cord from sash and weight. Old cord may be used to cut new cord to proper length.
3) Remove pulley. Strip off all paint in chemical stripper bath. Do not repaint. Straighten any dents, oil, and reinstall, or replace in-kind.
4) Feed new cord over pulley and down weight pocket by using weighted string. Tie off to weight and knot other end for insertion in sash. Cut to proper length and attach to stile.
5) With sash at top of window, weight should be about two inches from bottom of weight pocket.

Replacement bronze or steel sash pullys and pocket weights are available from period hardware suppliers.

Finish Hardware

- Reuse hardware and locks that are original or important to the historical evolution of the building.
- Clean hardware with non-acidic materials, and lubricate locks and hinges regularly with a household oil (such as "3-in-1").
- Replace non-original or missing hardware with a type that is historically compatible and/or concealed.
- Select new hardware to match original in type, style, and finish.
- Install utilitarian, yet high quality, “traditional” hardware. Rustic style hardware is appropriate for the cabins.
- Hardware should be unlacquered and allowed to darken over time.
- Replate rather than replace the hardware if finish of original hardware is worn.

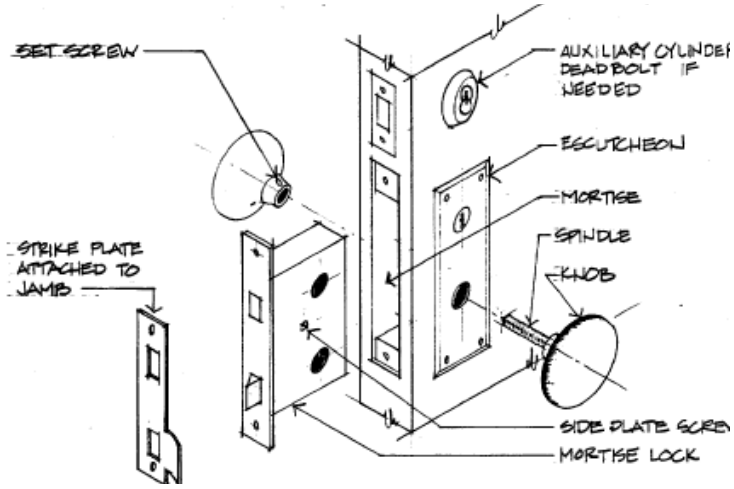
- Remove all non-original hardware no longer in use. Patch doors and frames as needed.

Rejuvenation’s “Putnam” brass-knob (left) and “Davis” porcelain-knob bevel-edge door sets (right).

Five-Knuckle Ball-Tip Loose-Pin Full-mortise Hinges are period-appropriate for 'french' and paneled doors. Rejuvenation's "Hyde" brass rosette door set (left); Crown City's "Traditional" knob/rose set (right).

DO NOT:

- Ø *Install elaborate or decorative hardware, including 'Victorian' or "Craftsmen-style" entry sets or 'crystal' knobs that are inappropriate for Kōke'e's vernacular cabins.*
- Ø *Use bright brass and polished chrome finishes that are inappropriate for Kōke'e's rustic style.*
- Ø *Paint or lacquer brass and bronze hardware.*



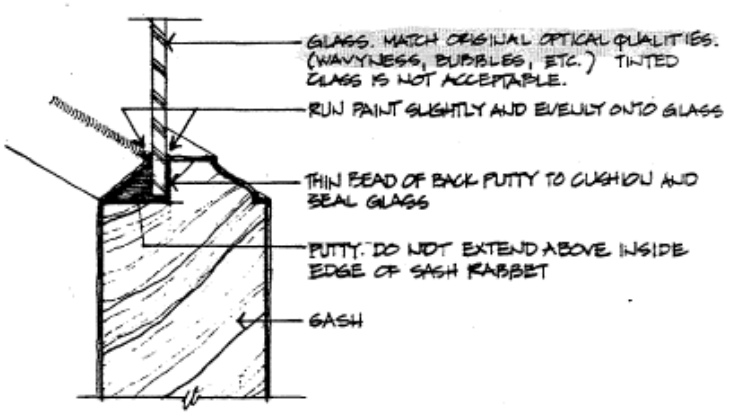
Glass and Glazing

- Wash glass twice yearly.
- Inspect for loose or cracked glazing putty; remove and reinstall as described in "Repair".
- Where appropriate, improve thermal efficiency of windows insulating with a low E-glazing or colorless glass-applied film.
- Reinstall glazing that matches the original; if possible use glass salvaged from another building of the same period.
- Reglaze traditional true-divided-light windows with linseed oil putty or glazing compound.
- If sash is to be repainted, scrape all old paint off glass first. Strip sash of all built-up paint layers. Treat bare wood with paintable water repellent preservative. Prime and repaint.

Putty glazed window sash.

Reglazing:

1) Remove old putty by hand. Hard putty may be softened by heating with a soldering iron or coating with paint stripper. Protect other panes from damage.
2) With all broken glass removed, clean out remainder of putty from rabbet and prime with a water repellent preservative.
3) A bead of linseed oil putty or glazing compound should be laid around the rabbet to cushion and seal the glass.
4) Press the pane into place and secure with glazing points.
5) Complete application of putty.
6) Paint as soon as "skin" has formed on putty (2 or 3 days).



GLASS REPAIR

Energy Retrofitting

- Improve thermal efficiency with weather-stripping, caulking, and if appropriate for the building, shutters and awnings.
- Install interior storm windows with airtight gaskets, ventilating holes, and/or removable clips to insure proper maintenance and avoid condensation damage to historic windows.
- Install exterior storm windows, which do not damage or obscure the windows and frames.
- Use lightly tinted glazing on non-character defining elevations and only after other alternatives above are carried out.

DO NOT:

Ø *Replace original materials with vinyl or aluminum.*

Ø *Replace historic multi-paned sash with new thermal sash utilizing false muntins.*

Ø *Replace windows or transoms with fixed thermal glazing or permitting windows and transoms to become inoperative.*

REFERENCES

The following publications contain more detailed information about windows. They are available from the National Park Service or at www.cr.nps.gov/linkpubs.html.

Preservation Brief #3 – Conserving Energy in Historic Buildings

Preservation Brief #9 - The Repair of Historic Wooden Windows

Preservation Brief #10 - Exterior Paint Problems on Historic Woodwork

The Window Preservation Standards Collaborative (WPSC) is developing national standards for the repair and weatherization of old and historic windows. See http://ptnresource.org/WPSC/about/.

ROOFING

IDENTIFY, RETAIN AND PRESERVE

Identify, retain, and preserve the functional and decorative features that are important in defining the overall historic character of the building. This includes the roof's shape, such as hipped or gable; decorative features, such as vents, and chimneys; and roofing material such as wood or asphalt shingles and corrugated metal, as well as its size, color, and patterning.

Historic buildings at Kōkeʻe generally retain their original roof form and detailing; however reroofing was often done with new materials, such as corrugated metal. Roofs have sometimes been adversely affected by the addition of new elements such as antennas, mechanical equipment, solar collectors, and satellite dishes.

PROTECT AND MAINTAIN

- Inspect, evaluate, and monitor roof for signs of deterioration of roofing materials, and leaks caused by deteriorated or improperly functioning flashing, gutters, and downspouts.
- Eliminate excessive moisture problems by repairing leaking roofs, gutters, and downspouts and by securing or replacing loose or deteriorated flashing.
- Clean and maintain roofs and flashings properly so that water and debris do not collect and cause damage to the roof fasteners, sheathing, and the underlying structure.
- Repair leaking roofs. Secure or replace loose or deteriorated flashing. If aluminum is used for flashing, fasten with aluminum nails and paint.
- Insure proper ventilation to prevent condensation.
- Provide adequate anchorage for the roofing material to guard against wind and water damage.
- Check seams of metal roof and keep metal surfaces painted except for copper flashings, which are protected by their own patina. Historically, unpainted roofs are the exception and should be left to weather.
- Repair historic flashing in-kind where possible. Flashing failure is a frequent cause of leaks and damage to the roof structure and the building interior, as well as to exterior masonry. Remove existing deteriorated flashing. Insert new flashing to divert water away from building materials. Counter flash, secure and caulk.

DO NOT:

- Ø *Change roof materials - The use of modern asphalt shingles as a replacement for a wood or metal roof can dramatically alter the historic building's overall appearance and compromise its historic integrity. While wood shingle is initially expensive to replace, it lasts longer and is, therefore, less expensive in the long term.*
- Ø *Remove historic elements - original chimneys, chimney pots, roofing, and dormers all contribute to the style and historic character of the building as well as to the visual integrity of the roof. These elements should be retained whenever possible.*
- Ø *Apply paint or other coatings to roofing material, that historically has been unpainted.*

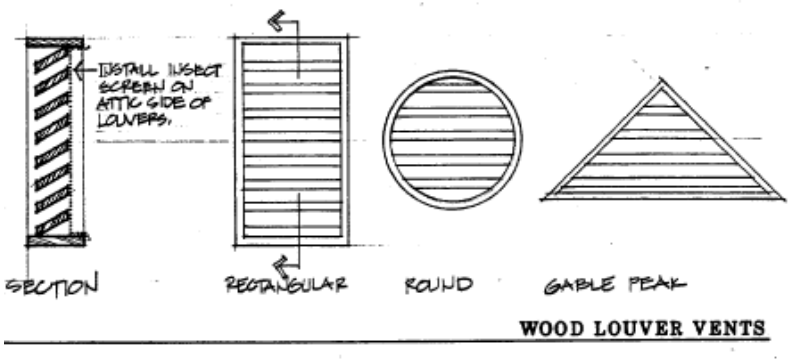
REPAIR

Repairs will generally include the limited replacement in kind--or with compatible substitute material--of those extensively deteriorated or missing parts of features when there are surviving prototypes such as louvers, attic vents, or wood shingles on a main roof.

- Use replacement materials that are identical to the original in color, size, finish, and reflectivity.
- Use metal fasteners in metal roofs compatible with the roofing material.
- Use high quality flashing material during repair.

DO NOT:

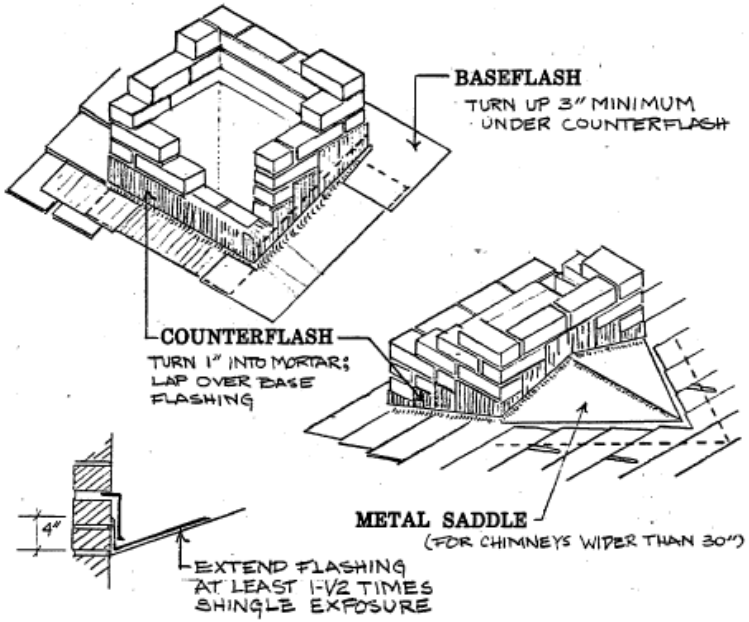
- Ø *Use substitute materials to replace or cover original materials unless damaged or deteriorated beyond reasonable repair.*
- Ø *Use a substitute material for repair that does not convey the same visual appearance as the rest of the roof.*
- Ø *Remove original eaves and overhangs. They are important design features. Repair if possible, or replace in-kind.*
- Ø *Use materials that are physically or chemically incompatible, which will eventually cause deterioration or corrosion.*



REPLACE

- Replace roof features in-kind that are too deteriorated to repair--if the overall form and detailing is still evident--using the physical evidence as a model to reproduce the feature. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.
- Design and construct a new feature when the historic feature is completely missing, such as a chimney or vent. Complete an accurate restoration by using historical, pictorial, and physical documentation; or use a new design that is compatible with the size, scale, material, and color of the historic building.
- Install mechanical and service equipment, such as plumbing vents, transformers, or solar collectors so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.
- Design additions to roofs, such as covered lanais, so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.
- Improve thermal efficiency. Insulate all roofs by laying batt insulation in the attic or ceiling cavity.
- Buildings that were once roofed in wood shingles should be re-roofed in wood shingles to match the original. If asphalt shingles are used as a substitute, a heavy weight asphalt shingle should

be used to better imitate the wood shingle profile. Sawn wood shingles are appropriate for most building types.



REFERENCES

The following publication contains more detailed information about roofing. It is available from the National Park Service or at www.cr.nps.gov/linkpubs.html.

Preservation Brief 04: Roofing for Historic Buildings

Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors

Preservation Brief 19: The Repair and Replacement of Historic Wooden Shingle Roofs

Preservation Brief 39: Holding the Line: Controlling Unwanted Moisture in Historic Buildings

PAINT AND FINISHES

IDENTIFY, RETAIN, AND PRESERVE

Paint is a primary means of protecting the building envelope from the damaging effects of weather and moisture. Both latex and oil base paints are acceptable for exterior use.

Retain coatings, such as paint, that help protect the wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program that involves repainting or applying other appropriate protective coatings.

PROTECT AND MAINTAIN

- Inspect painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.
- Repaint with colors that are historically appropriate to the building and to the district.
- Historically unpainted buildings must remain unpainted. They can be maintained with a protective coating of boiled linseed oil or with a commercial wood preservative intended for unpainted surfaces.

White wash finish with dark trim, typical on rural buildings.

Typical "Plantation" green.

Typical "Plantation" red.

REPAIRS

Refer to the “Masonry” and “Wood” sections in this document for specific guidelines for painting those materials.

Cleaning

- Clean surface with strong spray of garden hose. If necessary, scrub remaining soil using a diluted laundry detergent solution (1/2 cup detergent in 1 gallon water) and a natural bristle brush. Rinse thoroughly and dry.
- Remove mildew with a solution of 3 quarts warm water, 1 quart bleach, 2/3 cup trisodium phosphate or borax, 1/2 cup detergent. Scrub with natural bristle brush, hose off, dry completely.
- Remove rust stains from metal by sanding surfacing; then prime with rust inhibitive primer and touch-up with two coats finish paint. Remove rust stains from wood by sanding nail heads; then prime, set, fill, sand and touch-up with two coats, finish paint.

Preparation

- Repair all cracks, deterioration and moisture problems before painting, see section on “Wood".
- Use the gentlest means possible to remove loose and peeling paint to the next layer of sound paint using hand scraping and hand sanding (wood and masonry) and a wire brush (metal). A infrared painter heater can be used on wood for heavy build up of paint where there is alligatoring and blistering.
- Use chemical strippers primarily to supplement other methods such as handscraping, handsanding and the above-recommended thermal devices. Detachable wood elements such as shutters, doors, and columns may--with the proper safeguards--be chemically dip-stripped.
- Insure that all surfaces are free of dirt, grease, and grime before painting.
- Prime surfaces if bare wood is exposed or if changing types of paints, such as from oil to latex.
- Generally, use oil-based paints on wood and metals and latex paints on masonry. In all cases, use high quality paint and follow manufacturer's specifications for preparation and application.
- A glossy or semi gloss surface will weather better and be easier to clean. A flat finish will hide marks and uneven surfaces better.

DO NOT:

- Ø *Sandblast or use high-pressure water wash to remove paint from masonry, soft metal, or wood.*
- Ø *Apply latex paints directly over oil-based paints as it either will not bond or will pull the old oil-based paint off of the painted surface.*

CAUTION: Lead is a health hazard. Paint manufactured before 1978 may contain lead. With some exceptions, lead-based paint must be removed by a certified contractor. Be sure to limit the creation of paint dust and properly dispose of paint chips and dust. For assistance with proper removal and disposal, contact the Environmental Protection Agency or the State of Hawaiʻi Department of Health, Kauai District Health Office at (808) 241-3614.

Lead was used in light color paints to provide coverage and is frequently found on sash and trim.

Transparent stain on wood siding.

Typical Plantation-vernacular paint scheme.

Color Selection and Placement

- Colors should be selected to complement the style and period of the house. Bright and obtrusive colors should be avoided.
- Generally, trim, porch framing and columns, and window frames should be painted the same color. The wall, whether masonry or frame, should be a contrasting color.
- The number of colors should be limited and details, such as door surrounds or railings, should not be painted with an additional accent color.

Wood Finishes

Wood floors, stairs and railings, and trim have great value as character-enhancing elements in most of the historic buildings in Kōkeʻe. ʻŌʻhia rails and flooring, made from a native tree species in Hawaiʻi, is particularly unique and should be preserved.

- Maintain wood floors by cleaning and waxing regularly. Limit wear of existing wood floors in heavily trafficked areas by covering with a removble protective surface like carpet.
- Limit paint removal. Wood should be stripped only if it is necessary to make elements operable (such as windows), or to remove lead-containing paint.
- Repaint wood trim and walls with colors that are appropriate to the historic building. Paint color analysis is used to determine historic colors.

DO NOT:

Ø *Use polyurethane finishes on wood.*

HAZARDOUS MATERIALS

Canec

Canec is a historically significant material in Hawaiʻi and should be retained because it is no longer manufactured and cannot be replaced in-kind. Canec was manufactured locally between the 1930s and 60s using sugar cane bagasse. Canec is difficult to repair and the compressed fiber panels made today do not entirely match the surface texture of canec.

- Canec is a relatively soft material; care should be taken to not damage the boards through accidental hitting and nicking during normal use.
- If canec boards need to be replaced, they should be replaced with another fiberboard material.
- Canec may contain arsenic in the range of 1,000 – 4,000 mg/kg (parts per million). Although elevated in comparison to natural background, inorganic arsenic in canec does not pose exposure or potential health concerns for building occupants or workers, provided it is in good condition and not rotting or "powdering away".
- Canec building materials are exempt from State laws requiring a hazardous waste determination to be made prior to disposal.

Asbestos

Asbestos is a fibrous minerals that occur naturally in rocks and soil. Asbestos has been incorporated into thousands of building products in use in the United States since the early 1900s. Breathing asbestos fibers is known to cause chronic diseases that may not appear until years later. A series of EPA rules banning most asbestos-containing materials went into effect in the 1980s.

Asbestos-containing materials are known as friable or non-friable. In friable form, the asbestos materials can be easily crumbled, broken or crushed, thus releasing asbestos fibers into the air that are harmful when inhaled into the lungs. Examples of this type of asbestos are pipe wrap and acoustical ceiling tiles. Asbestos-containing materials can be encapsulated (applying a sealant to bind the fibers together) or enclosed (installing a rigid structure around the asbestos-containing material), or they can be completely removed.

In non-friable form, asbestos fibers are bound in another hard material. Examples of this type of asbestos are some vinyl floor tiles and vinyl sheet flooring, asbestos-cement siding and roof shingles, or roofing tar. These products seal the asbestos fibers in the material. Unless these materials are damaged by methods such as sanding, cutting, tearing, or breaking, non-friable products pose little threat.

All encapsulation or removal tasks should be performed by a properly licensed contractor. Before undertaking major renovations, consider having a licensed asbestos hazard evaluation specialist examine the house. The work will include a visual inspection and collection of small samples for lab analysis. Laboratory analysis is the only sure way to identify asbestos fibers. A directory of contractors is available from the State of Hawai'i, Department of Health.

For more information, contact the EPA Asbestos Hotline at 1-800-368-5888 or go to http://www.epa.gov/asbestos/ashome.html

REFERENCES

The following publications contain more detailed information about painting and color selection. These are available from the National Park Service or at www.cr.nps.gov/linkpubs.html.

Preservation Brief 06: Dangers of Abrasive Cleaning to Historic Buildings

Preservation Brief 10: Exterior Paint Problems on Historic Woodwork

Preservation Brief 28: Painting Historic Interiors

Preservation Brief 37: Appropriate Methods of Reducing Lead-Paint Hazards in Historic Housing

PLUMBING

IDENTIFY, RETAIN, AND PRESERVE

Plumbing fixtures are utilitarian features designed to maintain sanitary living and working conditions. When porcelain wears off or fixtures become cracked, maintenance in a sanitary state becomes more difficult. Rusting and worn faucets and other trim also become maintenance problems and cause wear to other components of a plumbing system. Deteriorated plumbing fixtures may be rechromed, reporcelained or replaced.

PROTECT AND MAINTAIN

- Prevent accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces, and cellars so that moisture problems are avoided.
- Check all main shut-off valves yearly to assure they won't rust or break off in an emergency. Tag them if they are not easily identified.
- Clean drains when sluggish to avoid clogs. Keep drain strainers in place and clean often to keep drains open.
- Clean porcelain and chrome fixtures with a non-abrasive cleaner.
- Drips should be repaired as they occur, to prevent wear to fittings and to porcelain finish.

DO NOT:

Ø *Pour cooking grease down drains, which will cause them to clog.*

REPAIR

Although most plumbing work will probably be done by a specialized subcontractor, familiarity with older plumbing and basic repair and maintenance techniques are important to the overall maintenance of Kōkeʻe.

Older plumbing often utilizes cast iron soil lines, galvanized water lines and clay pipe sewer lines. Since these materials differ from what is in common use today, connections between different materials and contact corrosion between different materials are chief concerns when repairing or modifying an existing system.

- To avoid corrosion, always connect new copper pipe to old galvanized pipe with a dielectric union or a short brass nipple. No-hub couplings that consist of a neoprene sleeve with stainless steel band clamps at both ends, are available for

connections to old cast iron. A Calder coupling, which compensates for differences in pipe thickness, is available for connecting to old clay pipe.

- Cut galvanized pipe with a handsaw, cut copper with a tubing cutter. Always use dielectric unions with dissimilar metals. Never join dissimilar metals.
- If a framing member is cut during piping installation always reinforce the member with steel or plywood plates. Do not cut into historic millwork.
- When soldering, keep a water hose or fire extinguisher handy.

REPLACE

- Replace in kind--or with compatible substitute material--those visible features of mechanical systems that are either extensively deteriorated such as vents, grilles, or plumbing fixtures.
- When piping systems reach 50 - 60 years of age they should be scheduled for replacement. This will be more cost effective than various patches and repairs that may start a chain reaction of leaks.
- When selecting replacement fixtures it is important and most economical to specify high quality, durable products. The design of fixtures should be compatible with the substantial look of historic forms. Extremely modern or fashionable designs will soon look inappropriate in a historic setting.
- Replace cracked or worn fixtures with best quality new fixtures of compatible form and proportion. If otherwise serviceable, fixtures may be reporcelained.

Ceramic Tile

Residential bathrooms often had architecturally significant tile work. Tiles patterns give personality to these functional spaces and contribute to the architecture's character and warmth.

- Special attention should be given to the maintenance, cleaning, and repair of these tiles. Ceramic tile can be cleaned with mild cleaning solutions, but never with abrasive cleaners. The tile should be checked periodically for loose or missing grout.
- Any tiles that become loose should be reset before they become lost or damaged.
- New tiles shall match existing. This may require custom firing tiles.

REFERENCES

Preservation Brief 18: Rehabilitating Interiors in Historic Buildings - Identifying Character-Defining Elements.

Preservation Brief 40: Preserving Historic Ceramic Tile Floors

National Park Service/Heritage Preservation, Inc. Caring for Your Historic House. Comprehensive guidance focusing on the importance of maintenance in the preservation of historic homes. Harry N. Abrams, Inc. 1998.

LIGHTING AND ELECTRICITY

IDENTIFY, RETAIN, AND PRESERVE

The existing lighting and electrical systems in Kōkeʻe's recreation residences contribute to the historic character in their design and the type of lighting they provide. These guidelines augment the Secretary of Interior's standards for electrical systems, which are oriented toward preserving historic systems and incorporating new systems in historic buildings.

Period light fixtures and parts are available from many suppliers. See "Resources".

PROTECT AND MAINTAIN

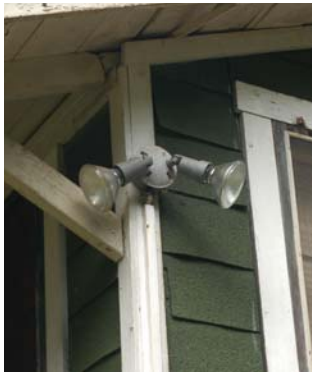
Building & Site Lighting

- All original light fixtures should be preserved. Historic electrical fixtures should be cleaned and rewired to meet existing codes.
- Traditionally, exterior lights were simple in character that used incandescent lamps. These were relatively low in intensity and were shielded with simple shade devices. This tradition should be continued.
- Exterior lighting should be a subordinate element, so that the stars in the night sky are visible.
- Non-historic light fixtures should be replaced to match the original whenever possible, or should conform to the character of the building. Care should be taken to ensure that new "period" light fixtures are similar in style and era to the architectural style of the building. It is usually better and safer to be more conservative by choosing an understated modern piece that "disappears" in its environment.
- Traditional materials such as baked enamel or porcelain, oxidized copper and cast iron should be used.
- Indirect lighting should be used whenever possible so that the light source is hidden from direct view.
- Replacement period lighting can utilize efficient fluorescent or LED lamps as long as they are supplied with warm-colored (not the typical cool-white) lamps.

Examples of period-appropriate exterior lanai lighting.

DO NOT:

Ø *Install fluorescent strip fixtures, spot lights, flood lights, and other unshielded, high intensity light sources and those that direct light upward are inappropriate.*



Exterior flood lights should be shielded.

REPAIRS

Miscellaneous Electrical

- Conceal new wiring wherever possible. If wiring cannot be concealed, use wood surface raceways, carefully attached to avoid damaging historic materials, and painted in the same finish colors as the adjacent surfaces.
- Run the wires in the inconspicuous places, along molding edges, for instance, rather than across flat wall molding edges.
- All conspicuously mounted conduit should be rerouted along the baseboard or concealed in corners and finished to match adjacent surfaces.
- Do not overload circuits with excessive fixtures and equipment.

DO NOT

Ø *Deface millwork when making repairs.*

Telephone and Cable Wires

- Wires for telephone and cable connections are often run on the surface and can look unsightly if not installed neatly. Run new wires at floor level rather than on top of baseboards.
- Clips holding the wires in place should be installed without damaging any moldings or other historic elements.

Panel Boxes, Breakers and Meters

- Repairs to electrical service and distribution equipment must be done by a licensed electrician.

Location of Electrical Equipment

- When it is necessary to install electrical equipment on or around the exterior of a historic building, the equipment should be placed in as unobtrusive a location as possible.
- Equipment on the ground should be located away from pedestrian entry points, preferably on less visually important sides of a building and shielded by landscaping or walls.

DO NOT:

Ø *Place equipment on roofs unless they cannot be seen from most public vantage points.*

REPLACE

- Electrical work should be done by a licensed electrician and coordinated with finish trades.

DO NOT:

Ø *Locate service equipment on primary facades of historic buildings.*

REFERENCES

National Park Service/Heritage Preservation, Inc. Caring for Your Historic House. Comprehensive guidance focusing on the importance of maintenance in the preservation of historic homes. Harry N. Abrams, Inc. 1998.

NEW CONSTRUCTION

Architectural Character

Traditionally, buildings in Kōkeʻe were rustic in character. This is a fundamental characteristic that is vital to preserving the historic integrity of the District.

- Respect the design character of the nearby historic properties. New buildings shall be designed to blend in with, but not copy, the historic buildings. The exact copying or replication of historic styles creates a false historical impression and is contrary to the Secretary of the Interior's Standards for the Treatment of Historic Properties.
- New buildings shall appear simple in form and detail, in keeping with the rustic tradition of Kōkeʻe.
- New buildings shall be compatible with the historic architectural character of the area while also recognized as products of their own time. It is important for a new building to use similar primary building materials.

The new building (left) complements the character of the historic cabin.

DO NOT:

Ø *Use stylistic ornamentation that confuses the history of Kōkeʻe. Use ornamental details with constraint, and do not copy historic details from unique or exceptional buildings.*

Ø *Construct domes, log homes, A-frames, mobile homes, and other non-traditional building types that are not consistent with the historic character of the District.*

Exceptional architecture: Hagino House (l); Danford House (r).

Building Form

- Most historic buildings in Kōkeʻe have very simple rectangular forms, and new structures shall respect this design tradition. New construction shall appear similar in mass and size to historic structures. The height, width and depth of a new building shall be compatible with nearby historic buildings.
- The proportion of the facades of new buildings; e.g., the relationship of a building's width to its height, shall be similar to, and compatible with, existing adjacent buildings as seen from the street and publicly accessible areas.
- Break up the massing of larger new buildings into components that reflect this traditional size.
- Use traditional roof forms. Sloping roof forms, such as hip, gabled and shed, shall be the dominant roof shapes in residential contexts.

Typical side gable roof with shed roofed additions.

DO NOT:

- ∅ *Construct buildings that differ greatly from the existing pattern of simple forms and shapes, or in the relation of height to width from that of adjacent historic buildings.*
- ∅ *Construct non-traditional roof forms. Flat roof lines are inappropriate, except on accessory structures.*

Gable roof.

Hipped roof.

Building Orientation and Siting

The manner in which a new building, both primary and accessory structures, relates to the road is an important consideration in terms of compatibility with its historic context. Traditional siting patterns should be respected.

- New construction shall avoid intruding upon the primary elevations of historic buildings, or be placed away from the elevations normally seen by the public.
- A new building shall be set back a similar distance from the street as those nearby historic buildings and incorporate a landscaped area that is in keeping with the District. Other alignments, such as those seen from similar eave heights, porch heights and the relative alignment of window and door moldings, are also important.
- The scale of new construction shall be less than or equal to the size of the existing historic property. A new building shall complement the general size, shape and proportions of the historic buildings.
- Accessory structures shall be located behind and subordinate to the primary recreation residence

DO NOT:

- ∅ *Vary the setback of new buildings significantly from the adjacent historic buildings.*
- ∅ *Construct new structures that block historic views or site lines to historic properties.*

Number of Residences

Not more than one single-family residence shall be authorized within the Conservation District on a legal lot of record. Multiple structures may be permitted provided that there is only one kitchen *("Kitchen" means a facility within the residential dwelling for food preparation, including fixtures, appliances or other devices to wash, prepare, heat, cook and refrigerate food and wash cooking utensils and dining implements).*

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RESIDENTIAL DEVELOPMENT STANDARDS
(from Title 13 (HAR), Subtitle 1 Administration, Chapter 5 Conservation District - Exhibit 4)

Minimum Lot Size

10,000 square feet

Minimum Building Setbacks

For lots 10,000 square feet to one acre:
Front : 15 feet
Sides : 15 feet
Back : 15 feet

For lots over one acre:
Front : 25 feet
Sides : 25 feet
Back : 25 feet

Exceptions: Allowable building area extensions 36 inches in 15 foot setback 42 inches in 25 foot setback (e.g., eaves and decks). Site characteristics and lot shape may be a factor in adjusting minimum setbacks when so determined by the board.

Maximum Developable Area:

Means the total floor area in square feet allowed under the approved land use. The floor area computation shall include: all living areas under roof, including decks, garage or carport.

In addition to the MDA, additional accessory structures may be allowed. Examples include: swimming pools, saunas, developed water features, play courts, and other standing structures. The total area shall not exceed 2,000 square feet.

For lots 10,000 sq. ft. to one (1) acre: 3,500 square feet.

For lots larger than one (1) acre: 5,000 square feet.

Exceptions: The Board may grant additional maximum developable area when requested by the applicant, with justification. The deviation shall be limited to 15 percent. Site characteristics and the degree of pre-existing site disturbance may be a further limiting factor in the calculation of maximum developable area when so determined by the Board.

Maximum Landscaped Area:

For lots 10,000 sq. ft. to one (1) acre: Maximum 25 percent of the lot can be landscaped.

For lots larger than one (1) acre: Maximum 15 percent can be landscaped.

Maximum Height Limit

The maximum height of the building shall not exceed twenty-five feet measured from the highest point of the roof structure (excluding any allowed chimney, antenna, vents, or similar protrusions) down to the lower of the existing or finished grade at the lowest corner of the building.

ARCHITECTURAL DESIGN ELEMENTS

Foundations and Framing

Many of Kōkeʻe's historic houses are of single-wall construction with post and beam foundations on stone or concrete footings.

- Building foundation walls shall be compatible with similar historic buildings in the District.
- The form, materials and detailing of exposed structural members shall be similar to that of nearby historic structures.

DO NOT:

Ø *Use concrete masonry units (block) construction for exposed foundations.*

Exterior Walls and Finishes

Traditionally, a limited palette of building materials - wood, stone, and metal - were used in Kōkeʻe. Wood was the primary building material for residential structures. Accessory structures, which were usually constructed of wood or corrugated metal, were more rustic and utilitarian in character.

- Maintain the existing range of exterior wall materials and finishes found throughout the District, including board-and-batten siding, vertical tongue and groove board siding, and, in rare applications, wood shingle siding.
- Exterior wood finishes shall appear and be applied in a manner similar to those used historically. Use materials that have a demonstrated durability in this climate and have the ability to be repaired under reasonable conditions.
- Maintain protective coatings of paint or opaque stain on exterior wood siding, especially for plantation-style buildings. Colors shall be consistent with historic buildings in the District. Unfinished wood siding is appropriate for rustic-style buildings in the District.

- The size, spacing and lap dimensions of siding shall be similar to that found traditionally, (for example, 12-inch boards with battens, or 1x 6 flush-joint tongue-and-groove boards).

DO NOT:

Ø *Use stucco, EIFS, concrete block, scored plywood (T1-11) or hardboard panels, vinyl or aluminum siding, as these are not consistent with the historic character of the District.*

Ø *Use synthetic materials, such as cement board siding, or reflective materials, such as mirrored glass or polished metals.*

Roofs

A limited number of roof materials are evident in the historic District. Today, the use of corrugated metal dominates. Historically wood shingles were used in Kōkeʻe. Roof materials and slope (pitch) on new buildings shall appear similar to those used traditionally. Typically older buildings used pitches greater than 4-in-12.

- The roofs of new buildings visible from the street and public areas shall relate in shape, pitch and materials to the roofs of existing adjacent buildings. Gable and hipped roof forms are found throughout the District.
- Corrugated metal roofs are appropriate. Metal roof materials shall be painted with traditional colors, or left unfinished to weather.

- Historic metal roofing was typically fastened directly to the rafters without eave sheathing. Although contemporary fastener heads do not match the historic appearance, the fasteners shall be as similar to the historic profile as possible.

- Asphalt shingles are inexpensive and have a relatively long life. A good quality composition (asphalt) shingle in muted colors is appropriate.

- Other shingle types, such as recycled rubber, while not appropriate for historic buildings, may be considered for new construction.

Windows, Doors and Other Openings

- The width and height of a new building's windows and doors shall relate to the proportions of existing adjacent buildings visible from the street and public areas.
- The rhythm of solids and voids in a new building shall match the pattern at existing adjacent buildings. Most of the existing historic buildings in the District have a much larger proportion of solid walls than of openings.

Exterior Architectural Elements

- Entrances, porches, and other projections shall relate to the pattern of existing adjacent buildings and contribute to a consistent rhythm and continuity of features in the District.
- The architectural details and articulation of new buildings, such as chimneys, railings or shutters, shall relate to that of existing buildings.

Detailed guidelines for lanai and porches are included in the section "Additions."

REFERENCES:

More detailed information about building codes can be obtained from the County of Kaua'i – Department of Public Works, Building Division, Phone (808) 241-4854.

Also see:

Working On the Past In Local Historic Districts, available at http://www.cr.nps.gov/hps/workingonthepast/index.ht

GUIDELINES FOR ADDITIONS TO EXISTING BUILDINGS

This chapter presents design standards and guidelines for the treatment of existing additions to historic properties and the design of new ones. The construction of an exterior addition to a historic building may appear to be essential for the new use, but the guidelines emphasize that such new additions should be avoided and considered only after it is determined that those needs cannot be met by altering interior spaces.

Standards for Additions

- Attempt to accommodate needed functions within the existing structure without building an addition.
- Respect the existing historic character of surrounding buildings in the District and insure that the new addition will complement this historic character.
- Respect the scale, massing, materials, and window spacing of the historic building, but do not attempt to duplicate form, material, and style, so that the addition is sensitive to the historic building.
- Design new additions as separate, but connected, structures.
- Place new additions, such as balconies, decks, exterior stairs and greenhouses on the rear or inconspicuous sides of the building.
- Construct a new addition so that character-defining features are not radically changed, obscured, damaged, or destroyed in the process of rehabilitation.
- New additions may be contemporary or may reference design motifs from the historic building. In either case, they should always be clearly differentiated from the historic building and be compatible in terms of mass, materials, relationship of solids to voids, and color.

DO NOT:

Ø *Use the same wall plane, roofline, or materials that may make the addition appear original to the historic building.*

This lanai addition is a separate, but connected, structure and utilizes details and materials from the original structure.

EXISTING ADDITIONS

An early addition typically used forms and materials that were similar to the main building and it remained subordinate in scale and character. The height of the addition was usually positioned below that of the main structure, and it was often located to the side or rear, such that the primary facade remained predominate.

- Preserve an older addition that has achieved historic significance (i.e., at least fifty years old) in its own right and should be respected. An early addition to a building may be evidence of the history of the structure, its inhabitants and its neighborhood.
- More recent additions that are not historically significant (i.e., less than fifty years old) or structures that are not compatible with the historic building may be removed.

NEW ADDITIONS

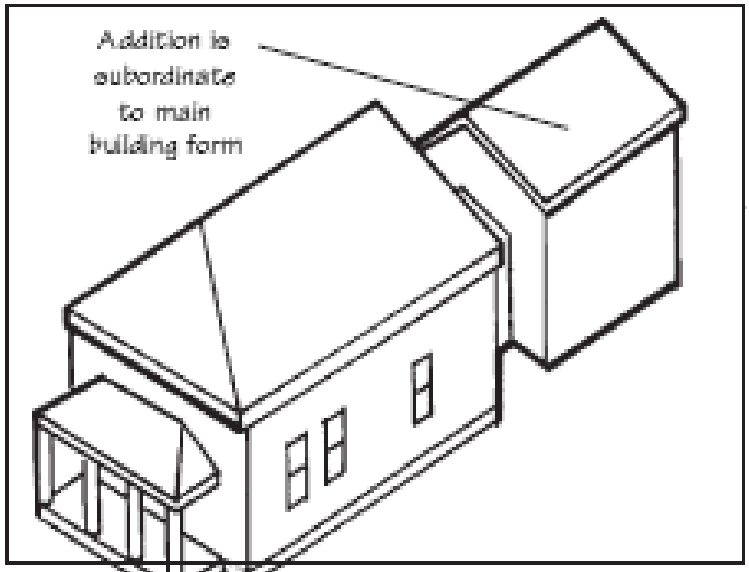
When planning an addition, consider the impact the new structure will have on the historic building. The loss of the historic fabric should always be minimized. A design for a new addition that would create an appearance inconsistent with the historic character of the building is inappropriate. The new work should be recognized as a product of its own time and yet be visually compatible with the original.

Lanai addition in character with existing building.

- Additions shall not obscure or damage character-defining features (such as windows, doors, porches, brackets or roof lines).
- Additions shall be visually subordinate to the main building.
- An addition shall respect the proportions, massing and siting of the historic building. Set an addition back from the primary facade in order to allow the original proportions, form and overall character of the historic building to remain prominent.
- The form and detailing of an addition shall be compatible with the historic building. Simpler details on an addition can help distinguish it from the original structure.
- A substantial addition shall be distinguishable from the historic building so it can be understood as a more recent change. This can be accomplished with a jog in the wall planes, or by using a corner board to define the connection, or a subtle change in

material, or a subtle differentiation between historic and more current styles.

- A small connector linking the historic building and the addition may be considered.



Design an addition such that it will not obscure, alter or destroy the character of the original building.

DO NOT:

Ø *Create additions that imply an earlier or later period than that of the building or convey an inaccurate variation on the historic style. For example, adding ornate "Victorian" details to a simple Kōke'e cabin would not be appropriate.*

Roof Additions

- A roof addition shall be in character with the style of the primary structure.
- The size of a roof addition, including dormers, shall be kept to a minimum and should be set back from the primary facade so that the original roof line and form is seen from the street.

This lanai addition is appropriately located on the rear elevation and utilizes materials similar to the original structure.

Covered Lanai Additions

Outdoor entertainment areas have been a feature at Kōke'e since Knudsen's early days camping at Halemanu.

Covered lanai addition.

Today, some of Kōke‘e’s recreation residences feature covered lanai or detached shelters that are reminiscent of Knudsen’s earlier structures. Some Kōke‘e cabin owners have also transformed carports into outdoor living areas. Most of these structures appear to be used primarily for outdoor dining. In any case, they are appropriate in their historic use, and provide an important extension of living space during inclement or hot weather.

- Covered shelters may be constructed in yard areas away from the main structure.
- Shelters should be rustic and utilitarian in appearance.

DO NOT:

Ø *Enclose porches, since this changes the historic character of the building.*

Modern Conveniences and Code Requirements

Careful consideration should be given to the design and placement of modern conveniences and to changes required by building codes on and around historic buildings, such as dish antennae, external water heaters, utility meters, trash container storage, utility wires, and ramps for the handicapped.

- Retain plant materials, trees, and landscape features to perform passive solar energy functions, such as sun shading and wind breaks.
- Install freestanding dish antennae in an inconspicuous manner so as not to detract from the property's historic character.
- Screen trash containers, external mechanical equipment, and utility meters with landscaping or a screen constructed to blend with the building.
- Comply with all health and safety codes in such a manner that character-defining features and finishes are least affected.

DO NOT:

Ø *Place dish antennae or other modern conveniences on conspicuous roof areas or near the roadway as to detract from the historic character of the building and the District as a whole.*

REFERENCES

More detailed information about building codes used in Hawai‘i can be obtained from the County of Kaua’i – Department of Public Works, Building Division, Phone (808) 241-4854.

The following publication contains more detailed information about new additions to historic buildings. It is available from the National Park Service or at www.cr.nps.gov/linkpubs.html.

Preservation Brief 14 – New Exterior Additions to Historic Buildings: Preservation Concerns

GUIDELINES FOR SITEWORK AND LANDSCAPING

IDENTIFY, RETAIN AND PRESERVE

Identify, retain, and preserve buildings and site features that are important in defining a property's overall historic character. Site features may include circulation systems such as walks, paths, roads, or parking; vegetation such as trees, shrubs, fields, or herbaceous plant material; landforms such as terracing, berms or grading; fences and decorative elements; adjacent open space such as fields or woodlands, and important views or visual relationships. Retain the historic relationship between buildings and landscape features of the setting.

This chapter presents design guidelines for the treatment of site features. These include landscape elements, as well as parking and driveways. Many of the design principles set forth in this chapter address considerations of buffering incompatible or visually obtrusive features and coordinating, or linking desired circulation systems. Others promote design that would be compatible with historic landscape traditions, while also accommodating changing uses and needs.

PROTECT AND MAINTAIN

Historic landscapes present a difficult planning problem in a district. Unlike buildings, which may be repaired, plants mature and die, or, in cases of neglect, become too overgrown for pruning. Proper maintenance includes replacement of plant materials and trees with similar varieties that are in keeping with the character of the original planting scheme.

REPAIR

Repair will also generally include the replacement in kind--or with a compatible substitute material--of those extensively deteriorated or missing parts of features when there are surviving prototypes, such as fence railings or paving materials.

REPLACE

Landscaping & Plant Materials

- Preserve important landscape features with regular ongoing maintenance of historic plant material. Minimize disturbance of terrain around buildings or elsewhere on the site, thus reducing the possibility of destroying or damaging important landscape features or archeological resources.
- Existing historic site features, such as fences, pathways and significant trees, shall be preserved and protected during maintenance or construction.
- Lack of periodic landscape maintenance can cause serious damage to buildings, including deterioration of foundations from invasive root systems, physical damage and moisture problems from landscape against building elements.
- Ground surfaces shall slope away from buildings to reduce the amount of groundwater immediately against foundations and building materials.
- Keep dense plant growth away from wood exteriors. Allow at least 3 feet between wood siding and hedges. Prune overhanging branches of trees so they are kept 3 feet away from roof eaves.
- If a tree is too close to a building, replace it in kind but relocate its position to allow for adequate clearance from the structure.
- Plants and lawns shall be fertilized on at least an annual basis.
- In many cases, trees and shrubs adjacent to buildings have become too overgrown for effective pruning. Replacement in-kind is probably necessary, followed by an annual pinching-back and light pruning.

- In new landscape designs, use plant materials that are compatible with the historic context and climate of Kōkeʻe (refer to "Development of a Cultural Landscape" in Chapter 3).

- Use plant materials in adequate quantities and sizes in order to have a significant impact in the early years of a project.
- Replace dead or dying plantings in-kind or in accordance with a developed comprehensive landscape plan. If diseased, evaluate the nature of the problem; if it is a pervasive disease substitute a non-susceptible variant that has a similar appearance to the original.
- Replacement plant materials shall be similar in size or equivalent massing to the plants removed (e.g., a cluster of smaller new trees may be used to establish a massing similar to one large original tree)
- If planting is incidental, remove it. If it adheres to historic planting arrangement, replace in kind or in accordance with a comprehensive landscape plan.

Incipient Invasive Species

Incipient species are alien plants that have not yet become established, but that pose a significant threat due to their aggressiveness, rapid rate of dispersal, and characteristics of killing off, crowding out, or otherwise displacing native vegetation. These plants have a good potential for being eliminated from sensitive areas, thus often are priority plants for eradication efforts and are NOT RECOMMENDED for new plantings. They include:

- Australian Tree Fern (Cibotium chamissoi)
- Chinese Privet (Ligustrum sinense, Oleaceae)
- Firethorn (Pyracantha angustifolia)
- Glory Bush (Tibouchina urvilleana)
- Tree Privet (Ligustrum lucidum, Oleaceae)

Established Invasive Species

Established species are alien plants that have become naturalized in the environment, even to the point of becoming emblematic of Hawaiʻi (e.g., ginger). In many areas they compose the majority of the vegetation type, and no reasonable potential for eradication exists. These plants do pose a significant threat in areas of primarily native vegetation. Control efforts for these plants focus on containment and removal from native-dominant vegetation areas.

Established species in the two parks includes:

- Australian Blackwood *(Acadia melanoxylon)*
- Banana Poka *(Passiflora mollissima)*
- Blackberry *(Rubus fruticosus)*
- Black Wattle *(Acacia mearnsii)*
- Bush Beardgrass *(Schizachyrium condensatum)*
- Fire Tree *(Myrica fayii)*
- Honeysuckle *(Lonicera japonica)*
- Ginger - Kahili *(Hedychium gardnerianum)*
- Ginger - White *(Hedychium coronarium)*
- Ginger - Yellow *(Hedychium flavescens)*

- Koa Haole *(Leucaena leucocephala)*
- Lantana *(Lantana camara)*
- Molasses Grass *(Melinis minutiflora)*
- Strawberry Guava *(Psidium cattleianum)*

The introduction of non-native, invasive plant species poses the greatest impact to the native forest. Unintentional and intentional introductions have created situations where eradication may be currently out of the question, such as in the case of blackberry (Rubus fruticosus) and banana poka (Passiflora mollisima). In these instances, controlling the spread should be undertaken by manual removal, herbicide, and biological controls, including control of seed carriers, such as pigs.

Long-term plant species management should include the removal of all non-native species. This work can be done incrementally as the trees become diseased or are damaged through natural causes.

Views

Views to natural and historic features abound in Kōkeʻe and contribute to its unique setting. These view corridors shall be respected.

- Preserve views to significant features from the public way.
- Landscaping is encouraged and, in some situations, may be required in order to mitigate the visual impact of the roadway or new structures. Such landscaping, when mature, shall maintain existing views and solar access corridors.
- Site plans for new construction shall retain existing view corridors. Sloped roofs allow views along the side yard of a property. Such design elements are encouraged as methods of preserving view corridors.

Site Retaining Walls

- Stone retaining walls are used in some areas where steep slopes occur. Many of these have historic significance and shall be preserved. Replace only those portions that are deteriorated beyond repair. Any replacement materials shall match the original in color, texture, size and finish.
- Maintain the historic height, form and detailing of a retaining wall. Increasing the height of a wall to create a privacy screen is inappropriate. If additional screening is necessary, add planting materials or a fence. It is important, however, that views of historic features shall not be screened from public view.
- Reduce water pressure on a retaining wall by improving drainage behind it. Also provide drains in the wall to allow moisture to pass through it.
- Minimize the perceived scale and mass of a new retaining wall. Walls less than four feet are encouraged. Where the overall retaining height must be greater than four feet, use a series of terraces with short walls to maintain the traditional sense of a hillside where feasible.
- For a new retaining wall, use materials similar to those seen historically. Natural rock or stone shall be used for a new retaining wall. Architectural block, with special texturing or color may be considered where it can be demonstrated that the result will appear to be in character with the area.

DO NOT:

Ø *Introduce mortar into dry-stack retaining walls.*

Ø *Paint a historic masonry retaining wall, or covering it with stucco or other cementious coatings, is not appropriate.*

Ø *Use conventional unfinished concrete block.*

Cut-and-Fill

Site development may require cutting new driveways into relatively steep slopes along with substantial excavations for foundations. While basic engineering concerns are major issues in these cases, the visual impacts of these cuts can be significant.

- Use earth berms, rock forms or stone retaining walls to minimize visual impacts of cut-and-filled sloping areas. Hedges and fences may also be appropriate in some locations.
- Recontour surrounding landscapes and slope beds to drain away from buildings. If this is not possible, install a french drain to intercept groundwater.

DO NOT:

Ø *Use exposed gabions; large, continuous surfaces of smooth, raw concrete; and other similar structures.*

Fences and Gates

- Historic fences survive at Kōkeʻe and shall be preserved. Replace only those portions that are deteriorated.
- A historic wood fence shall be left unpainted to gently weather.

- A fence shall not exceed four feet in height.
- New fences shall be compatible with the historic setting and be similar in character to those seen historically. Hedges may also be appropriate in some locations.

DO NOT:

Ø *Install solid, "stockade" fences that do not allow views into front yards.*

Ø *Install chain link, concrete block, unfaced concrete, plastic, fiberglass, plywood, and mesh "construction" fences.*

Residential Parking, Garages & Driveways

Although not a part of the early development of Kokee, the automobile is part of contemporary life. In all cases, the visual impacts of parking, which includes driveways, garages and garage doors, shall be minimized.

Parking

- On-site parking shall be informal and subordinate to other uses.
- Traditionally, front yards were not used as paved parking lots, and instead, yards provided views to facades and open space. Front yards shall not appear to be a parking area.

DO NOT:

- *Locate a parking pad in the front of a residence.*

Garages

- Detached garages are preferred.
- Garages shall be set back from the primary building.
- Garages shall be subordinate to the primary structure on the site. The material and detailing of a detached garage shall be utilitarian, to be compatible with other historic accessory structures.
- A garage door shall be designed to minimize the apparent width of the opening (two- 8'-0" wide doors instead of one 16'-0" door). Use materials on the door that are similar to that of wall surface of the primary structure. Wood-clad garage doors are preferred.

DO NOT:

Ø *Install metal or vinyl garage structures or doors.*

Driveways

- Paving materials shall minimize the impact a driveway will have on a historic property.
- Consider providing only ribbon strips of paving to reduce visual impacts as well as allow more drainage through soils.
- Use materials that are not impervious to water and will not create runoff into the roadway or onto adjacent properties.

DO NOT:

Ø *Use concrete, plain asphalt or black top.*

Accessory Structures

Historic Accessory Structures

Accessory structures are a part of the design traditions of Kōkeʻe. They include garages, barns and sheds. Because accessory structures help interpret how an entire lot was used historically, their preservation is strongly encouraged.

- Respect the character-defining features of historic accessory structures, such as walls, structural components, roof materials and form, windows, doors and architectural details.

- Historic accessory structures shall be preserved in their original location.
- If an existing accessory structure is beyond repair, then replacing it in-kind is encouraged. An exact reconstruction of the accessory structure is not necessary. However, the replacement shall be compatible with the overall character of the historic structure.

New Accessory Structures

- A new accessory structure shall meet current building codes (refer to Chapter 2).
- Locate an accessory structure to the rear of a lot. Locating an accessory structure to the side of a primary structure, but set back substantially, may also be considered.
- Construct an accessory structure that is subordinate in size and character with the primary building. In general, accessory structures shall be unobtrusive and not compete visually with the historic building.

- While the roofline does not have to match the house, it is best that it not vary significantly.
- Appropriate siding materials for secondary buildings include: unpainted or stained wood siding, wood planks, vertical board and batten siding or corrugated metal. These materials should be utilitarian in appearance.
- The use of muted, natural colors and finishes is particularly encouraged.
- Maintain the simple detailing found on accessory structures. Avoid details that may give an outbuilding a residential appearance.

Utilities

Utilities may include telephone and electrical lines, electrical transformers, ventilation systems, propane tanks, air conditioners and telecommunication systems. Adequate space should be planned in a project from the outset so that their visual impacts are minimized.

- Minimize the visual impacts of utilities and service equipment.
- Locate utilities at the rear of a property and screen them.
- Any utility device or piece of service equipment shall have a matte or non-reflective finish and be integrated with the building colors.
- Rooftop appurtenances, such as mechanical equipment, solar devices and satellite dishes, shall be placed in inconspicuous locations.
- Inspect drainfields annually and clean any clogged lines. Test drywells annually with running water from a garden hose to confirm effectiveness.

REFERENCES

Secretary of the Interior's Guidelines for the Treatment of Cultural Landscapes.

Preservation Brief 36: Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes.

HISTORY

HISTORY OF THE KŌKEʻE CAMPS AND PUʻU KA PELE LOTS

This history was based on "A History and Architectural Inventory of the Kōkeʻe Camps and Puʻu Ka Pele Lots, Kauaʻi, Hawaiʻi," which was prepared for the Kōkeʻe Leaseholders Association and Hui O Laka, Kōkeʻe Natural History Museum by Dawn Duensing in 2003.

Early Recreational Activities at Kōkeʻe

Between 1918 and the late 1950s more than 100 rustic cabins were built on three tracts of lots at Kōkeʻe, Halemanu, and Puʻu ka Pele on the island of Kauaʻi.[1] Located at elevations between 3,200 feet and 3,680 feet, the lots were dispersed among the streams, valleys, and forests of what eventually became Kōkeʻe and Waimea Canyon State Parks. The tracts were created for the express purpose of providing mountain retreats for Hawaiʻi residents who had the means to escape the coast's hot, dry summers. The Kōkeʻe Camps and Puʻu ka Pele Lots, as they came to be known, were unique. These "camps" were the only summer homes permitted on public land in Hawaiʻi. They were formally planned and modeled on the recreation residences in the U.S. National Forests. The history of Kōkeʻe demonstrates that the camps were created in the spirit of achieving the greatest public purpose. Consequently, the land was set aside not only for the protection of forest resources and the watershed, but also for recreational pursuits and public access.

The history of the Kōkeʻe area as a mountain retreat and recreational area began in 1856 when Kauaʻi pioneer Valdemar Knudsen obtained a lease from the Kingdom of Hawaiʻi for more than a hundred square miles of Crown land near Waimea. Knudsen used some of the Waimea uplands near Kōkeʻe for ranching, but also enjoyed recreational activities. According to Knudsen's son, Eric, his father was fond of exploring the mountain areas above Waimea and was especially interested in collecting birds and gathering ferns. Knudsen was fascinated by an area called Halemanu, which translated from Hawaiian means 'bird house.' Family lore stated that the Hawaiian bird catchers used a grass house at Halemanu while on their feather-gathering expeditions. Valdemar Knudsen liked the area so much that he had a grass house built for his own use. The grass house was reportedly small, only about 8' x 10', and was used as a weekend retreat and base for explorations. To build Knudsen's house, workers cut heavy timber from the forest for rafters, using the dried bark as a fiber to tie the rafters together. *Pili* grass was gathered from a dry ridge nearby and used to thatch the house. Eric Knudsen explained, "Grass two feet long was laid in handfuls against the slats and laced on until the walls were six inches thick. How sweet it smelled." The house required no windows, as fresh air circulated through the thatch.[2]

After Valdemar Knudsen married and had children, his family outgrew the thatched house at Halemanu. About 1868 he imported lumber from New Zealand, had it hauled up the mountain on oxcarts as far as the trail allowed, from where the materials were carried on foot or by horseback. The Knudsen's new house was "long and low with many small rooms and wide verandas." For three months each summer, Knudsen's family relocated to Halemanu from the hot, dry climate at the family's Waiawa home. At Halemanu they enjoyed the damp, cool, mountain air and the natural beauty that surrounded them. Knudsen took his children on scenic horseback rides and picnic excursions to the rim of Waimea Canyon or Kalalau Valley. He was especially fond of telling his children the legends and lore the Hawaiians had taught him about the Kōkeʻe area. While at Halemanu, servants did chores in the yard and garden, tended the horses, cut wood for the cook stove, and hunted for pigs.[3]

[1] Several place names were historically associated with the Waimea District's upland areas that became part of Kōkeʻe and Waimea Canyon State Parks. For purposes of this study, these general areas are referred to as "Kōkeʻe." Other distinct locales and place names in the Kōkeʻe area were Halemanu, a valley and stream in Kōkeʻe State Park; and Puʻu ka Pele, a hill/ridge area in Waimea Canyon State Park.

[2] Eric A. Knudsen and Gurre P. Noble, *Kanuka of Kauai, the Story of a True Pioneer*, (Honolulu: Mutual Publishing), 1999, 97-98.

[3] Knudsen and Noble, *Kanuka of Kauai,* 126-127.

In 1898 Knudsen died and his estate passed to his sons, Augustus and Eric, whose firm was known as the Knudsen Brothers.[4] Under Augustus's leadership, Kōkeʻe became well known as a camp site and recreational area. Perhaps more importantly, Knudsen was instrumental in responding to environmental problems at Kōkeʻe. He realized that the uplands at Kōkeʻe were of almost no value for ranching. Knudsen surmised that perhaps two hunters could make a poor living by hunting wild cattle in the forest and selling the meat and hides. In some cases, hunting cattle was a losing venture because it cost more to transport the wild cattle out of the forest than the meat was worth. More importantly, Knudsen observed that wild cattle trampled and denuded the forests, which not only eliminated vegetation, but also eroded valuable soil. Knudsen noted that the consequence of forest destruction was dry mountain bogs and streambeds. He, as well as those in Hawaiʻi's sugar industry, recognized that trees were essential to storing water and preserving the watershed.[5] A healthy watershed was critical for providing irrigation water for the sugar industry.

Rather than ranching, Knudsen set his sights on eliminating cattle and wild goats from the upland forests. He reported that his family's relentless hunting had practically eliminated the wild cattle problem as early as 1882. By 1890, Knudsen believed that wild cattle on his land as well as adjacent Nā Pali areas were practically extinct. He also noted that the Knudsen Brothers firm built a fence to prevent cattle from re-entering the forest and estimated that the fence protected an area as large as 30,000 acres. After eliminating cattle from the forest, Knudsen experimented with reforestation. He planted Australian koa, ironwood, and other non-native trees, but also observed that the native koa forest was regenerating. Wild goats, however, continued to do great damage on the Waimea Canyon *pali* [cliffs], leaving in their wake bare rock.[6]

Under Augustus Knudsen's stewardship, the Kōkeʻe area became a recreational camping area that was enjoyed by his friends from Kauaʻi and beyond. He was famous for his annual "camping parties" and enjoyed entertaining guests at the family's Halemanu retreat. As an avid outdoorsman, he was known as a "perfect genius" in finding paths, one who exercised the "most uncommon sense" and "instinctively" knew the topography of the land. Guests delighted in his guided hikes. Although the family continued to use the house at Halemanu, early camping structures also included a variety of canvas buildings and tents. Another camp site was established higher up the mountain at Kōkeʻe, which provided a convenient starting point for Knudsen's hiking expeditions.[7]

The primary objective of these high-elevation camps was to provide an escape from the hot summer days of Kauaʻi's coastal towns. Kōkeʻe offered "bracing" air, rushing streams, the pleasant sounds of mountain birds, and the scenic beauty of the mountains and Waimea Canyon. Early photographs of the Kōkeʻe area depict Knudsen and his guests, who were prominent members of Kauaʻi and Honolulu society, enjoying a variety of "camping" activities. "Camping" meant spending time outdoors and included swimming in a cold stream, tennis on Knudsen's tennis court, tending the rose garden, hiking, picnicking, and horseback riding.[8] At some point in the early 1900s, Knudsen granted other families the right to establish camps on his land, including the Danfords (circa 1907), Fayés, Hansens, and also the Kumuwela Camping Club.[9]

Although the Knudsen's house at Halemanu was apparently quite substantial as described by Eric Knudsen, many of the cabins in the early 1900s were small board-and-batten structures that were no more than shelters and sleeping quarters. Other forms of early shelters were wood platforms with canvas walls and a canvas roof supported by *ʻōhiʻa* branches. Some canvas structures were quite elaborate, while others were no more than "pup" tents. Facilities

[4] John William Siddal, ed. *Men of Hawaii* (Honolulu: Honolulu Star Bulletin Ltd., 1921) 239-240.
[5] Philip L. Weaver, "A Tropical Mountain Park," *Mid Pacific*, vol. IX no. 3 (1915): 295; Augustus F. Knudsen, "Report of Mr. Augustus F. Knudsen," *Second Report of the Board of Commissioners of Agriculture and Forestry*, year ending *December 31, 1905*, 90, Archives of Hawaiʻi (AH). Hereafter cited as BCAF Report.
[6] Knudsen, "Report of Mr. Augustus F. Knudsen," 90-91.
[7] Gerrit P. Wilder, "Among the Canyons of Kauai," *Mid Pacific*, vol. IX no. 3 (1915): 49.
[8] Kokee File, Knudsen Family File, Danford Family File, Photograph Collections, Kauaʻi Museum.
[9] List of Applicants for Camp Sites, Kokee Camps: General Permits, circa 1917-1918, AH.

included outhouses, showers built in streams, and separate kitchen structures. Kauaʻi's prominent families apparently could not do without servants while "camping." Ancillary structures circa 1900 included servants' quarters, tack rooms, and stables. Photographs indicate that getting families and servants up to Halemanu and Kōkeʻe was a major production that required numerous horses and wagons to carry people, crates and/or bags of supplies.[10] To make travel to Kōkeʻe easier for his guests, Knudsen built a road along the rim of Waimea Canyon.[11]

Planning for the Future

In 1903 the Territory of Hawaiʻi enacted legislation that created the Board of Commissioners of Agriculture and Forestry (BCAF) and authorized the framework for forest reserves. Although the Kingdom of Hawaiʻi had the authority since 1876 to set aside land for watershed protection, nothing was done, and it was not until the BCAF was established that action was initiated. In 1907, Nā Pali-Kona Forest Reserve was proclaimed, which included nearly 20,000 acres of land leased to Knudsen. When his leases expired in 1917 and 1920, the land was to automatically revert to the government and become part of the forest reserve. The BCAF astutely recognized that Knudsen had established a model for how Kauaʻi's uplands ought to be managed, and praised Knudsen Brothers' contributions in eliminating cattle, regenerating the forest, and improving the watershed. Over the course of the decade until his lease expired, Knudsen cooperated with the BCAF in determining Kōkeʻe's future. Documents show that Knudsen and Superintendent of Forestry Charles S. Judd not only established the precedent for how to manage Kauaʻi's forests and watersheds, but also set the standard for public enjoyment of the land as well.

While the BCAF was busy establishing forest reserves to protect Kauaʻi's watersheds, other possible uses for government forest reserves were also being suggested. The earliest written reference to public recreational camp areas at Kōkeʻe was likely a 1912 Division of Forestry report. First, the report described the area leased to the Knudsens and emphasized the primary importance of Waimea's upland streams: irrigation development and power generation. Secondly, the report mentioned that Knudsen wanted to continue camping at Halemanu after his lease expired. The writer of this report, who was likely the Territorial Superintendent of Forestry Charles S. Judd, speculated on what might happen to Knudsen's camping area. He believed that the mountain camp at Halemanu was one of several valleys that offered "extremely attractive" camp sites. "Unquestionably," the report stated, "some arrangement should be made, when the present leases run out, to lease these valleys, under restrictions, as camp sites." The writer noted that leasing government lands in forest reserves for camp sites could be profitable, pointing out that both Wisconsin and New York had similar arrangements. The Kōkeʻe area was considered suitable for camping as it "would not be injured" by the campers. The report emphasized that those areas further up the valley where streams originated should be restored to their pristine condition.[12] The motive for this 1912 report is not clear. It is possible that the writer suggested the idea of public camp sites at Halemanu in order to justify Knudsen's continued use of his Halemanu camp site after his lease expired. By providing public camp areas, Knudsen would also be able to maintain his use of the area. The writer may have also genuinely believed that the New York and Wisconsin precedents would be good for Hawaiʻi's people, especially if it could be economically profitable.

Augustus Knudsen actively promoted the idea that the government should designate land at Kōkeʻe for summer camp areas for the general public. On one level, Knudsen appeared to be concerned about what the government might do with the land once it reclaimed control of the property. He may have worried that the land would be

[10] Kokee File, Knudsen Family File, Danford Family File, Photograph Collections, Kauaʻi Museum. It is unknown how large Knudsen's original cabin was. Over the decades the cabin was probably enlarged so that by the 1980s, the structure was about 3,500 square feet. See also *Honolulu Star-Bulletin,* "Emotions Run High at Bidding for Kokee Leases," July 24, 1985.

[11] Weaver, "A Tropical Mountain Park," 294-295.

[12] "Confidential Report to the Board of Commissioners of Agriculture and Forestry, Honolulu," by the Division of Forestry, September 3, 1912, 1-2, 4, AH.

leased for cattle grazing or other destructive purposes. On a personal level, he was probably anxious about maintaining his right to use his summer camp and house at Halemanu. A 1915 article in *The Mid Pacific* magazine seemed to suggest, as did the Forestry Division report, that one way for Knudsen to keep the rights to his Halemanu camp was to convince the government to develop Kōkeʻe camp sites for the general public.[13]

The Mid Pacific featured Knudsen's "tropical mountain park" in March 1915. Writer Philip Weaver praised Knudsen's mountain camps at Halemanu and Kōkeʻe. Weaver enthusiastically reported on the beauty of Waimea Canyon and his exhilarating activities at Kōkeʻe. He applauded Knudsen for opening his land and camp sites to Honolulu school boys every year, making trails accessible to anyone who enjoyed hiking, building a road into the area, and working to preserve the forest. The article also provided an opportunity for Knudsen to promote the idea of preserving the Kōkeʻe region for future generations. Knudsen argued that the land was of little value for cattlemen, but could be of enormous value to the general public. He emphasized, "this whole region can be presrved [*sic*] for all time for the use and pleasure of the whole public, and not for a lucky few, if the public realize the desirability of the place as a forest reserve." Knudsen mentioned several benefits to be gained by preserving the forest, including maintaining a healthy watershed and providing an attractive area for camp sites. He speculated, "campers could find a paradise for short trips and at little expense." Knudsen emphasized that preserving Kōkeʻe would be just as much a delight for Kauaʻi residents as Yosemite was for Californians. He pointed out that the government would soon regain control of the Kōkeʻe forests (without noting that he personally would lose his lease and Halemanu house) and urged people to make it known that Kōkeʻe should be made available to the general public, not controlled by private interests.[14] At least two other articles in *The Mid Pacific* in 1915 promoted the Waimea Canyon area, one of which featured Knudsen's Kōkeʻe camp and mountain adventures.[15]

The proposal for public camp sites at Kōkeʻe generated public attention in 1916 when the topic was frequently discussed in the pages of *The Garden Island* and by the Kauaʻi Chamber of Commerce. In September 1916, George K. Larrison, the Territory of Hawaiʻi Superintendent of Hydrography, expressed his personal opinion to the governor that a park at Kōkeʻe would be a "wonderful thing for the islands." Larrison's suggestion resulted from a visit to Kōkeʻe, where he camped, woke up to the chilly thirty-six degree air, and prepared his breakfast over a wood fire. He believed that Kōkeʻe's cool change of climate was just what Honolulu and other coastal residents needed to refresh themselves during the hot summer months. Larrison emphasized that if a park and camp sites were created, it would provide a nearby retreat for territorial residents, who would no longer need to travel to the U.S. mainland to find relief from the heat. Larrison continued by describing the wonderful hikes and horseback rides he experienced on his Kōkeʻe vacation.[16] A *Garden Island* editorial agreed with Larrison, stressing that Kauaʻi needed a "cool and delightful" place for its own residents to escape "the heat and depression of the beaten paths of nine months." The paper indicated that many Kauaians tried to escape the summer heat by going to the mountains, to Hanalei, or to the mainland. The Kōkeʻe area, with its cool climate, could be a perfect summer alternative. The editorial concluded that the government should provide camp sites and a good road to Kōkeʻe so that Kauaʻi's people could enjoy an easily accessible summer retreat.[17] Governor Pinkham enthusiastically supported Larrison's idea and promised to consider the matter.[18]

The Kauaʻi Chamber of Commerce eagerly supported the idea promoted by Larrison and echoed by *The Garden Island*. Chamber

[13] Weaver, "A Tropical Mountain Park," *Mid Pacific*, 294-296.
[14] Weaver, "A Tropical Mountain Park," 294-296.
[15] Wilder, "Among the Canyons of Kauai;" Weaver, "A Tropical Mountain Park;" and Alexander Hume Ford, "The Waimea Canyon," *The Mid Pacific*, vol. IX no. 4 (1915): 375-379.
[16] "Larrison Dreams of Park at Kokee," *The Garden Island*, 26 Sept. 1916.
[17] "An Ideal Summer Resort," editorial, *The Garden Island*, 17 Oct. 1916.
[18] "Planning a Park for Waimea Lands," *The Garden Island*, 17 Oct. 1916.

member George Ewart pointed out that immediate planning was crucial, as Knudsen's lease on the subject property would expire in 1917; thereafter the land would revert to the government. To promote the camp sites idea, the Chamber established a commission, which was chaired by Kauaʻi County Engineer J.H. Moragne. In addition to the commission's Kauaʻi members, the Chamber asked Honolulu notables to serve, including Commissioner of Public Lands B. G. Rivenburgh, Chief Forester Charles S. Judd, and Larrison.[19]

The Chamber of Commerce wasted no time in investigating the summer camp proposal. Within a month, it arranged for the Honolulu commission members to visit Kōkeʻe.[20] After touring the area, the commission reported that it unanimously supported the proposed summer camp; however, they believed that the project might be dependent on building a serviceable road to Kōkeʻe.[21] Despite the commission's unanimous agreement, Rivenburgh returned to Honolulu and criticized the summer camp plan in the *Honolulu Advertiser*. He opined that Hawaiʻi did not need a camping park on Kauaʻi any more than a monkey needed two tails. As the Commissioner of Public Lands, Rivenburgh apparently saw no need to establish a formal camp area. He instead suggested that the land was already available as a forest reserve, and residents only had to ask for permission to go camping on it. It is not clear why Rivenburgh first supported, then publicly condemned the Kōkeʻe camp proposal. It is obvious that he did not enjoy his Kōkeʻe visit. He grumbled to the *Honolulu Advertiser* about the "sort of trail" (road) to Kōkeʻe and complained that he was "half frozen" most of the time.[22]

With only three months remaining before a portion of Knudsen's leased lands reverted to the government, six written applications and several verbal requests for camp sites had already been submitted to the BCAF. These applications were from Knudsen's friends who had been going to Kōkeʻe for many summers and had already erected "more or less permanent" camp buildings, i.e. summer cabins. By September 1917, the Division of Forestry plans for a public camp area were nearly ready. Forestry documents and newspaper articles indicated that Judd completed most of the planning and surveys for the Kōkeʻe Camps. Judd concluded that the Kōkeʻe region was suitable for a camping retreat because it was the most accessible and extensive area on Kauaʻi that could be used for that purpose. He reiterated that Kōkeʻe's 3,500-foot elevation provided a respite and a "bracing climate for those who seek relief from the heat of the lowlands." In planning the Kōkeʻe Camps, he used the National Forest Service as a model, since that agency administered areas that allowed private individuals to lease land for summer homes. After studying the Forest Service "recreation-residence" program, Judd concluded that granting camping permits on Kauaʻi was feasible if there were specific restrictions to protect the forest reserve. His recommendations included revocable five-year permits for designated camp lots, a "small" permit fee, and a time limit of 14 days for campers to reside at Kōkeʻe. He also recommended that $100 worth of improvements be made to each lot and that a septic system be built. Finally, Judd wanted fire rules and a ban on cutting live trees. With this in mind, he recommended that a survey be prepared to lay out the camp sites. Also noteworthy was Judd's advice that the BCAF set aside land at nearby Puʻu ka Pele for Nā Pali-Kona Forest Reserve when Knudsen's other lease expired in 1920. He wanted to ensure that the land along the edge of Waimea Canyon would be protected for future generations.[23]

Knudsen's Lease Expires: Kōkeʻe Camps Established

Halemanu and Kōkeʻe reverted to the Territory of Hawaiʻi and to the jurisdiction of the BCAF when Knudsen's lease expired in December 1917. Judd prepared a survey and staked the summer camp sites at Kōkeʻe in mid 1918.[24] A survey map illustrated that the Kōkeʻe

[19] "Business Transacted by Chamber of Commerce," *The Garden Island*, 7 Nov. 1916.
[20] "For Summer Camp Investigation," *The Garden Island*, 28 Nov. 1916.
[21] "Dinner Session of Commerce Body," *The Garden Island,* 19 Dec. 1916.
[22] "Park Idea a Joke, says Rivenburgh," *The Garden Island,* 26 Dec. 1916.
[23] "Division of Forestry Report to the Board of Commissioners of Agriculture and Forestry," 21 Sept. 1917, 1-3, AH.
[24] "Camp Sites are Laid Out by Chas. S. Judd," *The Garden Island*, 20 June 1918: 1.

Camps were situated along the shallow valleys at Kōkeʻe and Halemanu, with camp sites laid out along the Kōkeʻe, Maluapopoki, Nawaimaka, Noe, and Elekiniʻiki streams.[25]

The BCAF emphasized that it was making the Kōkeʻe Camps available in response to requests from area residents who wanted the same types of privileges as the "many thousands" on the mainland that had summer homes in the U. S. National Forests.[26] Franklin K. Lane, Secretary of the Interior, commented on the importance of public land:

> "Those in the lower altitudes need the change in air that comes with the ascent to the mountains, and I am in hope that out of your public lands…there will be reserved on every island mountain a public park where those may resort who come from the lands below, where the transient may pass the night, or those who wish may have their cottages…. As the man of wealth now wisely has his hill house and his seaside house, so should there be reserved for those of more modest means some opportunity to gain the advantages of the rarer, cooler air of higher altitudes."[27]

The BCAF agreed with Lane and noted that it was responding to both his statements and island residents' need to escape the heat of the lowlands for the "invigorating" climate and pleasant surroundings of Kōkeʻe. The "Kōkeʻe Camps" in the Nā Pali-Kona Forest Reserve were set aside and opened to the public in 1918 for "the recuperation of bodily energy." The BCAF noted that the camp was favorably located near the scenic beauties of Waimea Canyon, where the rainfall was not excessive and the nights were always cool. Forty-seven camp sites that varied in size from .3 to 2.0 acres were surveyed and laid out. Campers were to be issued five-year permits at the rate of $25 per acre. A $500 bond was required to insure that lessees fulfilled the terms of their agreements.[28]

Application lists for the Kōkeʻe Camps included Kauaʻi's most prominent citizens and were compiled as early as August 1917. By the end of 1917, seventeen individuals had applied for camp sites. By August 1918, thirty-two applicants were on the Division of Forestry list for camp permits. An undated list of permit holders, which may have been from 1918 when the camp areas were established, indicated that twenty-eight permits were issued for Kōkeʻe camp sites. Permit holders included the Knudsen, Fayé, Danford, and Hansen families who already had camp sites and may have had permanent camp structures at Halemanu. Other permits went to clubs, including the Hawaiian Trail & Mountain Club, the Kumuwela Camping Club, the YWCA, and a "boys camp" that Augustus Knudsen had established. Notable Kauaʻi individuals also obtained Kōkeʻe Camp permits, including C. A. Rice, Philip Rice, Mabel I. Wilcox (as well as three other Wilcox family members), and B. D. Baldwin. The Knudsens, Annie (Valdemar's widow), Eric, and Augustus, obtained rights to four lots at Halemanu, one of which was used for the boys camp.[29]

The conditions of the camping permit required occupants to use their camp site within six months of signing the lease and at least fourteen days each year. Permit holders were required to make improvements worth $100 to the property. Campers were also responsible for compliance with sanitary and refuse regulations, which included building septic systems. Other rules intended to protect the forest: campers were not allowed to cut live timber or cut trails through the forest; they were forbidden from bringing in "plant life of any nature or seeds for planting" without special permission

[25] "Camp Sites are Laid Out by Chas. S. Judd," *The Garden Island*, 20 June 1918; T. B. Buch, Surveyor, "Na Pali-Kona Forest Reserve Kokee Camps, Kauai, Hawaii Territory Survey, June 1918," AH.
[26] *BCAF Report, Biennial Period Ended December 31, 1918*, 40, AH.
[27] "Kokee Camps," *The Hawaiian Forester and Agriculturalist*, vol. XV no. 8 (1918): 260-262, AH.
[28] "Kokee Camps," *The Hawaiian Forester and Agriculturalist*, vol. XV no. 8 (1918): 260-262, AH.
[29] "List of Holders of Permits in the Kokee Region within the Na Pali-Kona Forest Reserve, Kauai, Board of Agriculture and Forestry," n.d., circa 1917-1918, AH.

from the Superintendent of Forestry; they were required to keep their lots clear of lantana and other noxious weeds.[30]

Not Enough Happy Campers

While some Kauaians were no doubt pleased to finally have the Nā Pali-Kona Forest Reserve land available for public camps, not everyone was happy with the initial results. During the first year it appears that only twenty-eight of the forty-seven camp sites may have been leased, leaving nineteen lots empty for prospective campers.[31]

The foremost complaint about the Kōkeʻe Camps was that the lease costs were perceived as prohibitive for the average resident. A 1918 *Garden Island* editorial pointed out that Secretary of the Interior Lane had wisely observed that the wealthy in Hawaiʻi already had suitable mountain and lowland homes. The writer agreed with Lane's declaration that those of modest means should have a fair chance to lease a camp site. The editorial pointed out that Kōkeʻe leases were not suitable for those of modest means, although it did not define "moderate means." First, $25 dollars a year for "absolutely unimproved waste land fifteen or twenty miles from anywhere" was not considered a nominal cost, which was what the Division of Forestry had promised. Another major problem was that lessees were forced to put $100 worth of improvements on land that they might occupy for only five years as the leases were not automatically renewable. The lessees also had to furnish a $500 bond, which was considered an extraordinary amount of money. One camper complained that the lease conditions were "shameful and outrageous." The editorial concluded that the government was exploiting the man of moderate means. "We are almost ready to wish ourselves," the writer continued, "back under the monopolistic but fairly generous control of the private lessee [Knudsen]."[32]

The Chamber of Commerce led the crusade for reduced camping fees. The organization was disappointed that it had worked to assure that local residents had reasonable access to Kauaʻi's uplands. Rather than achieve reasonable access, chamber members believed that the leases were so overpriced that only the well-to-do could enjoy Kōkeʻe, which left out local families. They felt that a $2.50 to $5.00 per acre rental, rather than the set price of $25 an acre, would be fair. They also charged that the $500 bond was "a humiliating and unnecessary annoyance" and asked the government to review its policies. Eric Knudsen also complained that the lease rents were too high. He noted that his family had occupied their summer camp for sixty years. "In all that time," he added, we "never realized how exceedingly 'valuable' that country was." He reported that his rent for the entire upland area had been $100 annually, which he considered to be more than the land was worth.[33] Again, neither the newspaper nor the Chamber of Commerce defined who was of "moderate means."

The Chamber of Commerce's outcry against the excessive Kōkeʻe rents continued until the end of 1918. In January 1919 the BCAF announced that the annual fee would be reduced from $25 to $10 an acre, and the $500 bond would no longer be required. The Division of Forestry refused to give lessees the right of renewal, but to encourage campers to make improvements, the terms of the leases were extended from five to ten years.[34]

Puʻu ka Pele Forest Reserve

The next challenge for the Division of Forestry, which was still under Judd's leadership, was to decide how to incorporate the Puʻu ka Pele area into the forest reserve after the Knudsen lease to that parcel expired in 1920. As previously mentioned, Judd's primary interest

[30] "Kokee Camps," *The Hawaiian Forester and Agriculturalist*, vol. XV no. 8 (1918): 262-264, AH.
[31] "List of Holders of Permits in the Kokee Region within the Na Pali-Kona Forest Reserve, Kauai, Board of Agriculture and Forestry," n.d., circa 1917-1918, AH; *The Hawaiian Forester and Agriculturalist*, vol. XXIII no. 2 (1926): 13, AH.
[32] "Prohibitive Rental of Kokee Camping Sites," *The Garden Island*, 24 Sept. 1918.
[33] J. M. Lydgate, letter from Kauaʻi Chamber of Commerce to the Board of Commissioners of Agriculture and Forestry, 18 Oct. 1918, AH; "Kokee Summer Camps," *The Garden Island*, 22 Oct. 1918.
[34] "Na-Pali-Kona Summer Camps," *The Garden Island*, 24 Dec. 1918; "Foresrty [sic] Board Grants Requests," *The Garden Island,* 28 Jan. 1919; C. S. Judd, letter to Kauai Chamber of Commerce, 21 Jan. 1919, AH.

was that an area of land along the edge of Waimea Canyon would be protected for future generations.[35]

The Chamber of Commerce was also interested in the future of the Puʻu ka Pele lands and wanted more camping areas set aside for people who might prefer a site further *makai* than Kōkeʻe. The chamber pointed out that the Puʻu ka Pele area was a lovely mountain setting, with spectacular views of Niʻihau, and close to the grandeur of Waimea Canyon. Some chamber members asserted that Kōkeʻe was no place for summer camping, but Puʻu ka Pele was ideal as it had a cool invigorating climate, but less rain than Kōkeʻe. Puʻu ka Pele had the additional benefit of being only twelve miles from the main road.[36]

Judd's work of protecting the forest was not completed. In October 1918, he made his case for adding 4,900 acres of land at Puʻu ka Pele to Nā Pali-Kona Forest Reserve. Judd noted that the area consisted of the deep canyon country of upper Waimea Canyon and an upland plateau running from Puʻu ka Pele Ridge. He reported that the upland plateau had been fenced since 1898 so that the koa forest had regenerated. This forest was similar to land in the adjacent forest reserve, thus it also deserved protection. Judd opined that land along the Puʻu ka Pele Ridge was suitable for camp sites because the area was naturally protected by inaccessible valleys and cliffs, and on the south, the Knudsens' fence. The remaining portion of the land Judd recommended for inclusion into the forest reserve featured the most scenic parts of the Waimea Canyon, including the Waiahulu and Poʻomau Stream valleys. Judd described the scene:

> "Canyon walls rise precipitately, in many cases for several hundred feet sheer, while in the remainder of the two thousand or more feet to the top of the ridges the cliffs are hardly less steep. In many places the steep side ridges are sharply cut by erosion into pinnacles and castellated outposts, which with the distant waterfalls, and the variety of brilliant hues furnished by outcropping strata, the red volcanic soil, and the green vegetation make the section one of the very great scenic interest[s]. It is eminently fitting that such an area be retained permanently under the control by the Territory and its delights made available to the public."[37]

Judd urged the BCAF to establish the Puʻu ka Pele Forest Reserve, noting that government control of the land was important in order to control the wild goat population that damaged the canyon walls. The Puʻu ka Pele Forest Reserve was proclaimed by Governor C. J. McCarthy on December 31, 1918. The forest reserve encompassed 4,900 acres, including the most scenic part of Waimea Canyon and a large area of upland plateau that featured a regenerating koa forest. The BCAF planned to fence the reserve and remove wild goats.[38]

Establishing a County Park at Puʻu ka Pele

The local community, led by the Chamber of Commerce and the Kauaʻi Planters' Association, spearheaded the drive to establish a county park and additional camp sites at Puʻu ka Pele. It is not clear exactly why these local organizations wanted another camp area when Kōkeʻe was not fully leased. They did note that Puʻu ka Pele was drier and closer to the main road. Kauaians may have disliked the territorial government's control of the Kōkeʻe Camps or continued to believe that those sites were too expensive. In the end, it was clear that the Chamber of Commerce, the Kauaʻi Planters' Association, and the Kauaʻi County Board of Supervisors unanimously agreed that the people of Kauaʻi needed a mountain camp that was operated by their own Kauaʻi County government.

The Chamber of Commerce "camp site committee" worked to establish summer camp sites at Puʻu ka Pele. Even though the Puʻu

[35] "Division of Forestry Report to the Board of Commissioners of Agriculture and Forestry," 21 Sept. 1917, 1-3, AH.
[36] "Na-Pali-Kona Summer Camps," *The Garden Island*, 24 Dec. 1918; "As to Kokee," *The Garden Island*, 22 Oct. 1918.
[37] C. S. Judd, "Division of Forestry Report to the Board of Commissioners of Agriculture and Forestry," 16 Oct. 1918, 1-3, AH.
[38] *BCAF Report, Biennium Period Ended December 31, 1918*, 22, 24, 29, AH.

ka Pele Forest Reserve was proclaimed in 1918, the Knudsen Brothers maintained control of the property until their lease expired in 1920. The chamber committee met with Augustus Knudsen in early 1919, who agreed to lease ten acres for camp sites. The Chamber of Commerce hoped that when the land reverted to the territory, the government would extend Knudsen's generous conditions. The site selected was at an altitude of 3,435 feet, about two miles from Halemanu on the edge of Waimea Canyon. The chamber favored the site because it was closer to the main road and provided quick (about three hours) access from Līhuʻe. The chamber hoped the area would be an ideal camping spot and also desired to someday provide transient accommodations.[39]

The sugar plantations had played a role in Kōkeʻe's history since Knudsen began inviting his friends from the sugar companies to his camping parties. The plantations became involved once again when the Kauaʻi Planters' Association (KPA) enthusiastically endorsed the Chamber of Commerce's proposed Puʻu ka Pele summer camp. Speaking to that group, E. H. W. Broadbent, who apparently belonged to both organizations, emphasized that every plantation on the island would take advantage of the new camp. He believed that the Puʻu ka Pele location was a "perfect bonanza" for plantation employees who might otherwise travel to the mainland for rest and relaxation. It was easily accessible and would provide a good family vacation at a nominal price. He predicted that after a few weeks at Puʻu ka Pele, "plantation men" would return to work as "new" men. The Planters' Association appointed its own committee to work with the chamber's committee.[40] In an era when most Hawaiʻi residents never had an opportunity to travel to the mainland, Broadbent's statement makes it apparent that the proposed Puʻu ka Pele camp sites, while providing more lots for Kauaʻi families, still would not be within the means of the majority of island residents.

The joint committee's major objective was to secure the land beyond the expiration of Knudsen's lease in 1920. Without an option from the Forestry Division, the groups were hesitant to facilitate any permanent development. To address this problem, a special committee was organized to speak to the Knudsens about relinquishing their rights to the land a year and a half prior to the 1920 lease termination. The Knudsens supported the joint committee's efforts to provide public access to the forest and agreed to the early termination of a portion of their lease.[41]

The Chamber of Commerce and Planters' Association then took their plan to the Kauaʻi County Board of Supervisors. J. H. Moragne, who had chaired the original chamber committee on the Kōkeʻe Camps and was still the county engineer, pitched the program to the Supervisors in terms of a plan to transform the area into a county park. The joint committee's original ten-acre camp site became a proposed Puʻu ka Pele County Park that would consist of 200 to 300 acres of land released from the forest reserve. The Supervisors approved of the joint committee's plan and authorized Moragne to go to Honolulu to present the matter to the legislature, governor, and the BCAF, in hopes that those agencies would work with the county and grant the use of forest reserve land. Moragne's chief goal was to secure title to the land for a county park. In respect to the county park proposal, the Board of Supervisors also committed the county to improving the road to Kōkeʻe.[42]

Moragne went to Honolulu to present his survey of the 416 acres to be withdrawn from the forest reserve for use as a county park. The BCAF approved Moragne's proposal and in 1919, Governor McCarthy signed a proclamation withdrawing the acreage along the edge of Waimea Canyon from the forest reserve and turning it over to the County of Kauaʻi for development as a county park and camp area. The BCAF announced that it would be open to campers the following summer.[43] County records referred to the new camp sites as the "Puʻu ka Pele Lots."

[39] "Kaana Chosen for Camp Site," *The Garden Island*, 11 Feb. 1919.
[40] "Summer Camp Finds Favor," *The Garden Island*, 18 Feb. 1919.
[41] "Summer Camp Finds Favor," *The Garden Island*, 18 Feb. 1919; "Minutes of Supervisor's Meeting," *The Garden Island*, 11 March 1919.
[42] "Minutes of Supervisor's Meeting," *The Garden Island*, 11 March 1919.
[43] "The Puu Ka Pele Mountain Park," *The Garden Island*, 18 March 1919: 1; *BCAF Report, Biennium Period Ended December 31, 1920*, 24, AH.

In June 1919, *The Garden Island* reported on the popularity of the Puʻu ka Pele region for summer outings, thanks to the road improvements completed by the county. The paper related that numerous local families were making the drive from Līhuʻe to Puʻu ka Pele in an easy two-and-a-half hours. Families were enthusiastically praising the wonderful scenery and invigorating climate. One of the favorite midsummer activities was to pick thimbleberries, which grew in abundant supply. On one Sunday, twelve "machines loaded with pleasure seekers made the trip" to Puʻu ka Pele, which apparently was considered an astonishing number of visitors. In addition, the paper reported that some people were still making the trip the old-fashioned way, by horse. The newspaper took advantage of the newfound popularity of Puʻu ka Pele to reiterate the great need for the county's proposed summer camps, which by 1919 had not yet been established, despite the BCAF's earlier promise.[44]

The sugar plantations not only served as advocates for the creation of forest reserves and camp lots, the companies continued to be involved by leasing lots and building cabins that could be used by plantation owners, managers, and employees. Over the decades, Grove Farm Company, Kekaha Sugar Company, and Līhuʻe Plantation Company had cabins at Kōkeʻe. Employees from various Kauaʻi sugar plantations also built summer homes for themselves. One area at Kōkeʻe apparently had so many campers and cabins associated with the Hawaiian Sugar Company in Makaweli that it became known as “Makaweli Flats,” a name that was still being used in 2006.[45] Many of the camp site lessees continued to be from prominent Kauaʻi families who owed much of their wealth and social standing to the sugar industry.

While the county worked to achieve the Puʻu ka Pele Park and camps, the Kōkeʻe Camps were still not fully leased. Thirty-seven ten-year permits had been leased through the end of 1920; however, seven leases were cancelled for non-payment of rent. On January 1, 1921, thirty lots of forty-seven were being leased at Kōkeʻe and Halemanu. Only ten camp sites had been "substantially improved."[46] One of the substantial 1920 improvements must have been the completion of C. A. Rice's new mountain house, where Mrs. Rice gave a delightful tea in August. Her guests, in addition to the "Misses Rice," were Mrs. Eric Knudsen, Mrs. Frank Putman, Miss Hatch, and Miss Passmore.[47] Over the years, the Rice family became so well-established at the Kōkeʻe Camps that the lots they occupied became known as "Rice Flat."

No records were found to indicate when the Puʻu ka Pele Lots were ready for lease and development. If property tax records are accurate, some lots were laid out and houses built by about 1923-1925, with many more constructed during the 1930s. Kauaʻi County installed a water system at "considerable expense" to supply campers. The new county park and camp sites must have been a success. In 1922 the Kauaʻi County Board of Supervisors petitioned the BCAF for an additional 230 acres of forest reserve land for Puʻu ka Pele Park and more camp sites. The request was approved by the Governor in January 1923.[48]

Over the course of several decades, it became apparent that the county administration did not understand the territory's dual goals of protecting the forest and providing public access to natural areas. Colin G. Lennox, President of the BCAF, noted problems in Puʻu ka Pele County Park. First, he reprimanded the county for allowing campers to destroy forest cover and cut down trees to build their summer homes. In addition, Lennox was disturbed to learn that the land between the public road and the canyon rim was leased for private camp sites. He wanted this land to be reserved as a public park rather than private camp lots, which was in line with Judd's desire to protect the canyon area and reserve it for public use. In 1947 Lennox asked the county to not to issue more permits for the canyon rim lots and to cancel permits for lots that did not have occupied homes. When the BCAF inspected Puʻu ka Pele Park in

[44] "Summer Camp Site is Popular," *The Garden Island,* 17 June 1919.

[45] “Makaweli Flat” area is the cluster of lots, TMK 1-4-4-01 through 1-4-04-10.

[46] *BCAF Report, Biennium Period Ended December 31, 1920*, 43, AH.

[47] "Kokee Notes," *The Garden Island*, 3 Aug. 1920.

[48] "Puukapele and Na Pali-Kona Forest Reserves--Revised," *The Hawaiian Forester and Agriculturalist*, vol. XX (1923): 9-10, AH.

1949 Lennox discovered that his request had been ignored. Rather than canceling permits, the county had issued three new camping permits.[49] Within a few weeks, the county revoked the permits in question.[50] In 1955 the lots between the road and canyon were transferred from county jurisdiction back to the territorial BCAF.[51] The leases for the remaining camp lots on the canyon rim were not revoked, however, until the expiration of leases in 1985.

Kauaʻi county records indicate that Puʻu ka Pele County Park was popular and successful. In 1948 sixty-three "lot owners" leased camp sites at the Puʻu ka Pele Lots. The annual rental was $10 per lot, with each lot no larger than one acre. Permits for camp lots were ten years in duration.[52] By 1956 the county reported that seventy-four lots were leased; the terms and price of the leases had not changed.[53]

Kōkeʻe Activities

As early as 1919 the Gomez Garage made regular trips up to Waimea Canyon, taking people as well as "light and heavy hauling." The garage also rented self-drive Ford automobiles for those who preferred to travel independently.[54] At least forty people, including six groups of tourists, visited the area during one week in 1921. As the Kōkeʻe area became more accessible, activities were developed and expanded for Kōkeʻe campers, Kauaʻi residents, and visitors.

Trout fishing began as early as 1921 and was a popular annual activity during the summer months. In 1940 the territorial government received 25,520 trout eggs for Kōkeʻe streams from the U.S. Bureau of Fisheries. Kauaʻi's fish and game warden released 250 jungle fowl for hunters' pleasure in 1939. Goat and pig hunting continued to be popular pastimes.[55]

Kōkeʻe was a beehive of activity during the 1930s, when the U.S. government built a Civilian Conservation Corps (CCC) camp near Kanaloahuluhulu. CCC boys completed a number of conservation activities, among them assisting the Territory of Hawaiʻi with reforestation projects, which had been one of the original goals in establishing forest reserves. CCC boys gathered tree seeds, which were then spread by "air planting" using Army planes. With the CCC's assistance, the territory attempted to reforest the eroded cliffs of Puʻu ka Pele with *haole* koa, silver wattle, koa, and ironwood. The Division of Forestry had spread various other seeds over the years, including eucalyptus, Java plum, and the New Zealand karaka.[56]

One of the more well-known trees to be established at Kōkeʻe was the Methley plum. According to cabin owner/camper Kathryn Hulme, the Methley plum was brought from South Africa to Hawaiʻi by Dr. Lyons of the Hawaiian Sugar Planters Association. L. W. Bryan of the Division of Forestry sent cuttings to foresters on Kauaʻi about 1930. Kauaʻi forester A. J. MacDonald then began planting them along Kōkeʻe's trails and roads, getting help from the CCC boys after 1935. The plum-planting project reportedly set out an estimated 18,000 trees in the Kōkeʻe area. Plum trees also became a favorite landscaping item for many cabin owners.[57]

The successful establishment of plum trees eventually resulted in one of Kōkeʻe's favorite activities, plum picking. A 1953 government

[49] Colin G. Lennox, letters to William Ellis, Kauai Board of Supervisors, 19 Feb. 1947 and 3 Aug. 1949, Kauaʻi County Clerk.
[50] County Clerk, County of Kauai, letter to Colin G. Lennox, 22 Aug. 1949, Kauaʻi County Clerk.
[51] Colin G. Lennox, letter to William Ellis, Kauai Board of Supervisors, 3 Aug. 1949; Office of County Auditor, Report to the Chairman and Board of Supervisors, 20 May 1957, 2; Kauaʻi County Clerk.
[52] Office of County Auditor, Report to the Chairman and Board of Supervisors, 16 Mar. 1948, 2, Kauaʻi County Clerk.
[53] Office of County Auditor, Report to the Chairman and Board of Supervisors, 24 May 1956, 3, Kauaʻi County Clerk.
[54] Gomez Garage advertisement in *The Garden Island*, 25 Nov. 1919.
[55] "Trout," *The Garden Island*, 5 July 1921; "Trout Eggs to be Hatched at Kokee," *The Garden Island*, 30 April 1940; *BCAF Report, Biennium Period Ended December 31, 1940*, 44, AH; "Jungle Fowl Are Released in the Kokee Section," *The Garden Island*, 26 Sept. 1939; J. M. Lydgate, "Growing Popularity of Puu-ka-Pelee [sic] Park," *The Garden Island*, 12 April 1921.
[56] "Forestration [*sic*] Program to Continue," *The Garden Island*, 5 Oct. 1939.
[57] Kathryn Hulme, “Plum Crazy,” *Honolulu*, Nov. 1969, 82-83, 146.

report estimated that 9,000 people visited Kōkeʻe to pick plums and carried out approximately seventy tons of fruit. At some point, plum picking became such a popular activity that the government implemented a 'plum season' each year, which restricted plum picking to specified dates and decreed strict limits on the amount of fruit each person could harvest from government land.[58]

Gardening was another popular pastime at Kōkeʻe. It is uncertain when the government began supplying water to the Kōkeʻe Camps, although a water system was provided by the County of Kauaʻi to the Puʻu ka Pele Lots in the 1920s. Prior to the development of a water delivery system, gardening was usually done adjacent to streams where roses, pansies, dahlias, and other flowering ornamentals could thrive, even during the dry summer months. Larger yard areas with scattered trees were often left untended so that these areas maintained a naturalistic "wild woods" appearance. Hydrangeas were frequently planted alongside the cabins as roof runoff would keep them watered and growing. Picnicking in these various lot areas was popular.[59]

Although the earliest leases for the Kōkeʻe Camps forbid campers to import alien plants without the consent of the territorial forester, there is some indication that the Territorial Division of Forestry instead encouraged campers to help with reforestation. Supervising and approving campers' planting activities would probably have been an impossible task. Contemporary accounts report that campers were "expected" to plant fifty trees on their property, and evidence shows that campers most likely planted as they pleased. A fine example would be the blackberry, which subsequently spread throughout the Kōkeʻe area. Charles Rice reportedly complained to Forester Charles Judd that the plant was rapidly spreading in the forest, but the Division of Forestry refused to eradicate the pest. Over the years, blackberries as well as other alien species planted by campers became invasive pests throughout the Kōkeʻe forest.[60]

During World War II and martial law, access to the Kōkeʻe Camps and Puʻu ka Pele Lots was strictly limited by the U.S. military, which occupied and extensively used the Kōkeʻe area. Trails were closed for the duration of the war, and few campers were allowed access to their cabins. William P. Alexander, who had a cabin at Puʻu ka Pele, reported that visiting his mountain home was a problem due to gas rationing. He was one of the few lucky campers, however, as he received a special pass from the military that allowed him to visit his cabin in February 1942. Alexander's cabin log book noted that civilians were allowed to visit their mountain cabins for Independence Day in 1942; however, they needed a pass from Kauaʻi's provost marshal and were required to strictly observe speed limits. In October that year the military issued Alexander a pass that was "good until revoked," which apparently allowed him to go to his cabin as he pleased.[61] Many Kōkeʻe and Puʻu ka Pele campers apparently had no such privileges.

Despite the restrictions imposed on the Kōkeʻe area during the war, several benefits came as a result of the military occupation. One of the more important advancements was an improved all-weather road to Kōkeʻe that extended to the Kalalau Lookout. Scenic spots and mountain activities became more easily accessible to the general public. The improved road influenced the BCAF's postwar program, which was to make additional improvements that would transform the Kōkeʻe area into a "playground to be enjoyed by many."[62] Cabin owner/camper John Plews also noted that surplus Jeeps available after the war made it possible for campers to use their cabins on a year-round basis. Prior to the improved road and introduction of the all-purpose jeep, campers only used their mountain cabins during the summer. Plews reminisced that campers generally closed their cabins for the winter about September of each year when the steep road to Kōkeʻe often became muddy and impassable. Prior to the introduction of the jeep, they could only return to their cabins after the winter rainy season had ended.[63]

[58] Kathryn Hulme, "Plum Crazy," *Honolulu*, Nov. 1969, 82-83, 146; *BCAF Report, Biennium Period Ended June 30, 1953*, 77, AH.
[59] John H. R. Plews, E-mail to Dawn Duensing, 1 Nov. 2002.
[60] John H. R. Plews letter to Dawn Duensing, 20 June 2003.
[61] W. P. Alexander, Cabin Log Book, 1 Feb. 1942; 4 July 1942; 16 Oct. 1942, Private Collection.
[62] *BCAF Report, Biennium Period Ended June 30, 1946*, 70, AH.
[63] John H. R. Plews, conversation with author, 11 Nov. 2002.

After the war, the improved road as well as the enactment of a territorial park system made Kōkeʻe more available to the average Kauaʻi citizen. The Territorial Legislature authorized the Division of Territorial Parks with Act No. 185 in 1949, although it did not provide funding for the new park system until 1956. As a result, recreation-related work continued under the Division of Forestry and BCAF.[64] Kōkeʻe Park was declared the territory's first park; Waimea Canyon Park the second. The BCAF's annual report boasted that Kōkeʻe Park had been extensively developed since 1944 with new picnic grounds, rental cottages for short-term visitors, and camping accommodations for hunters and vacationers at the former CCC buildings. A scenic lookout had been established at Kalalau, and some forty-five miles of "excellent graded trails" were available. The report also noted that trout fishing continued to be popular. The BCAF boasted that Kōkeʻe Park was not only unique, but the finest upland recreation area in the Territory of Hawaiʻi.[65] A Kōkeʻe museum and a store/refreshment stand were established in 1953. Over the years, various associations obtained leases to lots in the Puʻu ka Pele and Kōkeʻe Camps, which provided additional recreational opportunities for Kauaʻi families. Organizations that obtained leases included the YMCA, Seventh-Day Adventists, United Church of Christ, Boy Scouts, Hawaiʻi Methodist Union, and the Honpa Hongwanji Mission of Hawaiʻi. The YMCA had organized camps for local youth since at least 1928.[66]

Water Tank Lots

The Garden Island announced in 1951 that twenty-seven new camp sites were available for lease at Kōkeʻe. Although the newspaper did not specify where the lots were located, these new camp sites were most likely what came to be known as the "Water Tank Lots." The Water Tank Lots were located adjacent to the original Kōkeʻe Camps. According to the newspaper, this was the first time that the public was offered an opportunity for a block of Kōkeʻe camp sites since before World War II.[67]

The BCAF accepted applications for the new lots with a $20 deposit and allowed prospective lessees to choose up to four lots. The new lots were all less than one acre in size, with the rental prices between $20 and $30 annually. The camping permits required that lessees build a summer home within eighteen months. The BCAF emphasized that it retained the right to approve all building design. As such, the BCAF required that all new summer homes meet the minimum specifications established by the board, which were intended to ensure that all buildings maintained a "rustic atmosphere" that "blended" with the landscape.[68] No records were located that explained the BCAF's specifications. Despite the requirement for “rustic” architecture, most buildings were built in the more modern plantation style that was common in Hawaiʻi.

The month following *The Garden Island's* announcement about the new lots at Kōkeʻe, the BCAF reported that only eighteen applications had been filed for the twenty-five (not twenty-seven as previously stated) camp sites. Permits were awarded to eight Honolulu residents and ten Kauaʻi residents. A drawing for the lots was held because there was more than one application for one particular lot. The BCAF announced that the remaining lots were available, presumably on a first-come, first-served basis. When the Water Tank Lots were opened, the Kōkeʻe Camps had sixty-eight permit holders. The existing permits were revoked and reissued in order to be consistent with the new Water Tank permits. The major change was an increase in rental fees, which rose from $10 annually to the $20 to $30 assessment being charged for the new lots.[69]

[64] *BCAF Report, Biennium Period Ended June 30, 1954*, 77, AH; *BCAF Report, Fiscal Year July 1, 1956 - June 30, 1957*, 109, AH.
[65] *BCAF Report, Biennium Period Ended June 30, 1952*, 91, AH.
[66] "Y.M.C.A. First Junior Camp Is Pronounced Huge Success: Kids Have Time of Their Lives," *The Garden Island*, 24 July 1928.
[67] "Camp Sites At Kokee To Be Available Soon; Drawings To Be Held," *The Garden Island*, 13 June 1951.
[68] "Camp Sites At Kokee To Be Available Soon; Drawings To Be Held," *The Garden Island*, 13 June 1951.
[69] "Camp Sites At Kokee To Be Available Soon; Drawings To Be Held," *The Garden Island*, 13 June 1951.

Recreation Residences Since Statehood

After Hawaiʻi became a state in 1959, a state park system was created and jurisdiction over the Kōkeʻe Camps was transferred to the Department of Land and Natural Resources (DNLR). In 1965 the County of Kauaʻi transferred its administration of the Puʻu ka Pele Lots to the DLNR. At that time, seventy-nine Puʻu ka Pele county permits were valid.[70]

Major changes came in the 1980s when all the camp leases expired. In 1984 the State Attorney General issued an opinion that all 121 leases for the Kōkeʻe area camp sites had to be awarded by means of a competitive bidding process when the leases expired at the end of 1985.[71] Kōkeʻe lessees were alarmed and feared losing their cabins in a competitive auction. According to newspaper accounts, some complained that the state had decided to auction the leases in order to enhance state revenue through higher lease amounts. State officials denied the charge, noting that the competitive auction was proper in order to give all Hawaiʻi residents a fair chance at obtaining a lease at Kōkeʻe. The Board of Land and Natural Resources (BLNR) did consider other options, including the possibility of holding a drawing. The BLNR also noted that it did not have to renew leases at all, but instead could allow the land to revert to general public use and have the buildings removed upon expiration of the leases.[72] In January 1985, the BLNR officially approved the plan for a public auction of 111 Kōkeʻe leases. Ten of the camp sites were excluded from the upcoming auction so that the land could be used for "park improvement purposes."[73] The ten camp sites were the lots adjacent to Waimea Canyon that Colin Lennox had wanted for public park purposes in the 1950s.

Over the course of the following months, the 120-member Kōkeʻe Leaseholders Association, which was organized in 1981, fought to retain their leases. The association disagreed with the attorney general's opinion that the leases had to be issued by means of a competitive bidding process. They argued that state law gave DLNR the power to directly negotiate with the current leaseholders.[74] Leaseholder Wayne Sakai, a Honolulu attorney, represented eighty-four leaseholders and filed a court motion to stop the auction. In June 1985, Kauaʻi Circuit Judge Kei Hirano denied the motion to postpone the auction. He disagreed with Sakai's assertion that leaseholders should have the first rights to leases on the basis that they had held the leases for numerous years and made expensive improvements to the property. Hirano sympathized with the leaseholders, but refused to overturn a decision made by a state agency.[75]

The aftermath of the 1985 auction drastically altered the architectural landscape at Kōkeʻe. Fifty leaseholders lost their recreation leases. Since former leaseholders owned the buildings on their lots, they could sell them to the new leaseholders or remove them from the camp lots. Valdemar Knudsen III lost his bid on property held by his family for four generations. Knudsen dismantled and moved his structure, which was Kōkeʻe's oldest cabin, to Kōloa rather than sell it for a low price to the new lessee. Forty leaseholders were unable to negotiate acceptable prices for their cabins from the new leaseholders and sold their property for as little as $3,000. Some were unable to find satisfactory solutions, and either moved or demolished their cabins. One leaseholder demolished his house when he learned that the lumber was worth more than the price the new lessee had offered.[76] All of the cabins located on the rim of

[70] Kunji Omori, letter to Hartwell K. Blake, County of Kauai Board of Supervisors, 20 July 1965, Kauaʻi County Clerk.
[71] Stirling Morita, "New Bids Needed on Kokee Leases," *Honolulu Star-Bulletin*, 24 August 1984.
[72] Lester Chang, "Longtime Residents in State Park Fret Over Lease Policy," *Honolulu Star-Bulletin,* 8 October 1984; Lester Chang, "Lessees at Kokee Hoping to Retain Vacation Cabins, *Honolulu Star-Bulletin*, 8 October 1984.
[73] Lester Chang, "Land Board OKs Kokee Cabin Site Auction," *Honolulu Star-Bulletin,* 25 January 1985.
[74] Lester Chang, "Lessees at Kokee Hoping to Retain Vacation Cabins, *Honolulu Star-Bulletin*, 8 October 1984; "Kokee Park Leases Are Up for Auction," *Honolulu Star-Bulletin*, 22 July 1985.
[75] "Judge refuses to halt auction of Kokee leases," *Honolulu Advertiser*, 29 June 1985; "Kokee Lots Auction Won't Be Postponed," *Honolulu Star-Bulletin*, 28 June 1985.
[76] Ryan and Chang, "Emotions Run High at Bidding for Kokee Leases," *Honolulu Star-Bulletin*, 24 July 1985; Lester Chang, "Kokee Tenants Hurt, Angry at Loss of Mountain Retreat," *Honolulu Star-Bulletin,* 29 March 1986.

Waimea Canyon were removed as a result of those leases being eliminated from the state parks.

The twenty-year leases awarded in 1985 began in January 1986, and were extended through the end of 2007. In 2005, the DLNR Division of State Parks designated the Kōkeʻe Camps and Puʻu ka Pele Lots as a historic district in recognition of the high number of recreation residences that maintained historic integrity. As this report was being written, the DLNR was in the process of preparing for a lease auction to be held in October 2006.

SIGNIFICANCE

The recreation residences of the Kōkeʻe Camps and Puʻu ka Pele Lots on Kauaʻi played a unique role in Hawaiʻi's recreational and conservation history. The idea of summer homes in upland areas for residents wanting to escape hot coastal climates was not new in Hawaiʻi. Summer homes had been built in other high-elevation locales, including Olinda on Maui, Volcano on Hawaiʻi, and Tantalus on Oʻahu. The Kōkeʻe Camps and Puʻu ka Pele Lots differed from other islands' summer regions as these tracts were formally planned and were built within publicly owned forest reserves. The camps, which were modeled after recreation residences built in the U.S. National Forests, were significant as they were a contemporary and local expression of a national trend. Finally, the Kōkeʻe tracts were also important for their association with the 1903 establishment of the forest reserve system in Hawaiʻi, and the idea that public lands could be used not only for conservation, but also for recreation.

Although Valdemar Knudsen's grass house and summer house are long gone, nearly 90 years after the Kōkeʻe Camps were created, 114 cabins remain. Approximately 75 of the structures are more than 50 years old and retain some historic integrity. The cabins' historic character is evidenced in the unpainted vertical-board or board-and-batten walls, lava-rock chimneys, and *ʻōhiʻa* porch railings. Wood-burning water heaters are still being used to heat water at some cabins. Most, if not all, of Makaweli Flats lessees still choose to live by the light of oil lamps rather than connect to the electric grid that has been available since the 1960s. The landscape of the rural mountain area also contributes to the overall character of the rustic cabins. Like the historic buildings and landscape, traditional recreational activities at Kōkeʻe continue, including plum picking and trout-fishing, both of which draw crowds from all over Hawaiʻi. Although the modern era and its satellite dishes have arrived in Kōkeʻe, the collection of vernacular rustic architecture remains to help illustrate the rich history of the only recreation residence tracts in Hawaiʻi.

Lot No.	TMK	Year Built	Architectural or Historical Integrity Rating			Contributing Property Assessment	Historic Integrity Assessment	Significance and Descriptions	Leased Area
			2003	2001	1983				
Puʻu ka Pele									
33	(4) 1-4-002:008	c1930	4	4	3	Contributing	Appears unaltered	Good example of plantation style architecture	0.85
29	(4) 1-4-002:010	c1929 [1931]	3	3	3	Contributing	Alterations old, not to building's façade	Good example of rustic vernacular architecture; original French doors and windows	1.00
11	(4) 1-4-002:012	c1930	3	3	3	Contributing	Altered but maintains some integrity	Good example of vernacular architecture	0.84
24	(4) 1-4-002:013	c1935	3	2	3	Contributing	Two additions; one older and the other more recent; alterations in character with original building	Good example of vernacular architecture	0.99
25	(4) 1-4-002:014	recent	1	0	0	Not Contributing	Not historic; not 50 years old	Post 1960 construction	0.89
35	(4) 1-4-002:015	1935c [1931]	2	2	2	Not Contributing	Many alterations compromise integrity; difficult to restore integrity	Plantation-style architecture; façade modified by sliding doors, large deck, stairs, and enclosure	1.03
3	(4) 1-4-002:018	c1924	2		0	Contributing	Integrity compromised by changes to main façade	Vernacular architecture; at least two additions; relatively new porch with extended roof, aluminum sliding doors, and new railing	0.97
13	(4) 1-4-002:020	c1931	4	4	4	Contributing	Integrity not compromised by modifications to side and rear of building	Good example of vernacular architecture; outbuildings complement historic character of main structure	1.00
16	(4) 1-4-002:021	1970s	1		0	Not Contributing	Not historic; not 50 years old	Simple cabin does not qualify as historic structure	0.90
30	(4) 1-4-002:022	c1955	2		0	Contributing	Integrity compromised by changes to front façade	Example of vernacular architecture; changes include large concrete lanai, new door, and large plate-glass window with jalousie sidelights	0.91

Notes:

This table includes all structures under a DLNR lease or use agreement within the historic district and is primarily based on Duensing's 2003 architectural inventory of the Kōkeʻe and Puʻu ka Pele Lots (i.e., year built, contributing property assessments, and significance statements). Bracketed years are from Appendix G, Draft Kōkeʻe and Waimea Canyon State Parks Master Plan. Estimated dates are preceded by "c", meaning circa or approximate.

Contributing property assessments reflect the state of a structure at the time of assessment and limitations during the inspections (e.g., available time, lot accessibility). Historic property assessments can change over time. Alternations or deterioration can diminish a structure's integrity and ability to contribute to the historic district's significance. Late 1950s and early 1960s structures that were not historic in 2003 have become, or will soon become, historic properties (i.e., over 50 years old) and may be good representative examples of these periods. Reassessments may be needed at the time of a project review or periodically.

Architectural and historical integrity ratings from 2003 are by Duensing, the 2001 ratings are by the State Historic Preservation Division, and 1983 ratings by the Historic Sites Section, DLNR. The rating levels are summarized below:

- #5: Building and site retain integrity with no significance changes evident and are good examples of Kōkeʻe and Puʻu ka Pele buildings and landscaping.
- # 4: Building retains overall historic character and relationship to site but lacks outstanding features of the area's historic architecture
- #3: Modifications made to building are small, easily reversible, or inconspicuous. It could be restored.
- #2: Historically inappropriate changes made to structure and/or site are not consistent with the historic character of the structure or the district (e.g., large additions, aluminum sliding windows facing public façade)
- #1: Major alterations or additions have significantly altered building to the point that it lost its historic associations and character.

Lot No.	TMK	Year Built	Architectural or Historical Integrity Rating			Contributing Property Assessment	Historic Integrity Assessment	Significance and Descriptions	Leased Area
			2003	2001	1983				
15	(4) 1-4-002:023	c1930	5	4	2	Contributing	No apparent alterations to original structure; outbuildings complement main building	Excellent example of rural vernacular architecture; in good condition	1.02
14	(4) 1-4-002:024	[1935]	1	3 or 2	2	Not Contributing	Integrity compromised by numerous additions	Numerous additions to main building include jalousies and sliding doors	3.05
18	(4) 1-4-002:025	[1988]	1	1	3	Not Contributing	Integrity lost with new addition		1.05
19	(4) 1-4-002:026	[1967]	1			Not Contributing	Integrity compromised by extensive modifications	Modifications to original modest cabin include large addition, new porch, and inappropriate changes to main façade such as jalousie windows and modern doors	1.03
20	(4) 1-4-002:027	[1954]	1	4	3	Not Contributing	Integrity compromised by changes to main façade	Changes to main building include aluminum sliding doors, large deck, lattice screens, corrugated plastic roof over part of porch	0.82
6	(4) 1-4-002:028	c1923	3	4, 2	2	Contributing	Probably maintains integrity despite modified façade	Example of vernacular architecture; changes include conversion of garage to bedroom and addition of plate-glass windows and jalousies	0.92
7	(4) 1-4-002:029	c1925	5	4	4	Contributing	Integrity maintained; appears largely unaltered	Excellent example of plantation architecture and of 1920s plantation employee's retreat; property well maintained	1.02
4	(4) 1-4-002:030	c1925	4	4	4	Contributing	Maintains integrity; appears unaltered	Example of vernacular architecture; bay window unique at Puʻu ka Pele	0.73
1	(4) 1-4-002:031	c1948 [1953]	4 or 5	4	3	Contributing	Appears intact and is well maintained	Fine example of vernacular architecture from late 1940s	0.97
5	(4) 1-4-002:032	c1943	4 or 5	4	0	Contributing	Integrity maintained; appears largely unaltered	Excellent example of vernacular architecture from the early post World War II period; style is unique to recreation-residence tracts	1.13
47	(4) 1-4-002:034	c1940	3	3	0	Contributing	Degree of integrity maintained despite impact of changes	Good example of vernacular architecture from the 1940s; porch added and north wall altered	1.15
50	(4) 1-4-002:035	c1949	3	3	0	Contributing	Integrity maintained; appears unaltered	Good example of vernacular architecture; windows are unique to recreation-residences	1.01
46	(4) 1-4-002:036	1944c	2 or 3	3	2	Contributing	Sufficient integrity maintained despite modifications	Good example of vernacular architecture; some changes but not visible on the main façade; porch may be added but consistent with rustic character	1.12

Lot No.	TMK	Year Built	Architectural or Historical Integrity Rating			Contributing Property Assessment	Historic Integrity Assessment	Significance and Descriptions	Leased Area
			2003	2001	1983				
44	(4) 1-4-002:040	c1953	3		0	Contributing	Integrity intact; façade-length porch suits historic character	Fine example of rustic vernacular architecture; porches added to front and back	1.00
10	(4) 1-4-002:041	[1929]	1	3	2	Not Contributing	Integrity lost by alterations	Cabin alterations include new siding over vertical boards and new vinyl windows; carport historic	0.99
48	(4) 1-4-002:042	c1948	2	1	0	Contributing	Sufficient integrity remains to allow restoration; changes do not impact public facade	Example of plantation-style architecture; several additions including large front porch	1.00
38	(4) 1-4-002:043	[1943]	1	0	0	Not Contributing	Integrity lost through extensive modifications	Modifications include fake brick chimney and modern roofing material	1.03
9	(4) 1-4-002:045	1930s	4	5	3	Contributing	Integrity maintained; alterations do not detract from historic character	Excellent example of vernacular architecture; large deck may be addition	0.76
37	(4) 1-4-002:044		recent	0	1	Not Contributing	Not historic; not 50 years old		0.88
23	(4) 1-4-002:046	c1932	2 or 3	5	5	Contributing	Maintains some integrity despite substantial and inappropriate modification to rear of building	Fine example of vernacular architecture; two-story structure is unique in recreation-residence tracts	0.79
12	(4) 1-4-002:047	c1937	3	3	2	Contributing	Maintains integrity; side addition appears as old as the house; porch in character	Fine example of rustic vernacular architecture; front porch and one side of building may be added	0.95
2	(4) 1-4-002:048	c1925	5	4 or 5	2	Contributing	Integrity maintained; appears unaltered	Excellent example of plantation-style architecture	0.96
51	(4) 1-4-002:051	[1945]	1	1	2	Not Contributing	Integrity lost through extensive modifications	Alterations include replacement of original windows with jalousies and new additions surrounding most of original structure	1.05
52	(4) 1-4-002:052	c1937	5	4	4	Contributing	Integrity maintained; appears unaltered	Fine example of plantation-style architecture; historic character of interior maintained	1.03
53	(4) 1-4-002:053	[1989]	1		0	Not Contributing	Not historic; not 50 years old	Intrusive in otherwise rustic character of other structures	1.03
54	(4) 1-4-002:054	1940s [1972]	4	4	2	Contributing	Integrity maintained; property and building nicely maintained and restored	Good example of plantation-style architecture; atrium window detracts from historic character somewhat	1.05
56	(4) 1-4-002:055	1940s late	3	2	3	Contributing	Integrity maintained but in poor condition	Only the small cabin at Camp Hale Koa is historic; may be leftover army barracks and therefore example of "army camp" architecture	4.06
59	(4) 1-4-002:059	[1988]	recent	0	1	Not Contributing	Not historic; not 50 years old		1.01
60	(4) 1-4-002:060	[1960]	recent	0 or 1	2	Not Contributing	Not historic; not 50 years old		1.01

Lot No.	TMK	Year Built	Architectural or Historical Integrity Rating			Contributing Property Assessment	Historic Integrity Assessment	Significance and Descriptions	Leased Area
			2003	2001	1983				
61	(4) 1-4-002:061	1950c	4	4	2	Contributing	Integrity maintained; alterations did not alter the building's historic character	Fine example of vernacular plantation-style architecture; alternations include addition to rear of building and extended porch	0.95
62	(4) 1-4-002:062	[1943]	1	1	0	Not Contributing	Integrity lost by extensive modifications	Structure's original character difficult to deduce	1.05
63	(4) 1-4-002:063	1943	4	3 or 4	3	Contributing	Integrity maintained; appears unaltered	Fine example of vernacular architecture	0.90
69	(4) 1-4-002:066	1954	1	2	2	Not Contributing	Integrity lost by substantial modifications	Cabin alterations include modern siding over original vertical board and addition of porch	0.87
71	(4) 1-4-002:068	c1943	3	3	2	Contributing	Integrity maintained; additions old and in character	Good example of simple vernacular architecture; additions appear old; windows and door original	1.12
70	(4) 1-4-002:067	c1955	4	3 or 4	1	Contributing	Integrity maintained; addition in the rear of building does not impact historic character	Good example of rustic, simple vernacular architecture	0.79
72	(4) 1-4-002:069	c1950	3	3	2	Contributing	Integrity maintained	Good example of vernacular architecture; nicely maintained property	1.08
74	(4) 1-4-002:071	[1988]	recent	0	2	Not Contributing	Not historic; not 50 years old		0.90
78	(4) 1-4-002:075	c1943	4	4	2	Contributing	Integrity maintained; appears unaltered	Good example of vernacular architecture	0.98
79	(4) 1-4-002:076	c1923	5	4 or 5	2	Contributing	Integrity maintained	Excellent example of vernacular rustic architecture	1.15
81	(4) 1-4-002:078		recent	0	0	Not Contributing	Not historic; not 50 years old		1.06
82	(4) 1-4-002:079	[1989]	recent	0	2	Not Contributing	Not historic; not 50 years old		1.11
83	(4) 1-4-002:081	[1955]	recent	0	0	Not Contributing	Not historic; not 50 years old		1.00
89	(4) 1-4-002:085	1963	1	3	1	Not Contributing	Not historic; not 50 years old	Substantial changes to original structure evident in 1983 inventory photograph	0.99
84	(4) 1-4-002:086	c1950 [1966]	4	3 or 4	1	Contributing	Integrity maintained; main façade unaltered; adjacent 1980s sleeping cabin complements character of original cabin	Small cabin is fine example of vernacular rustic architecture	0.82
Halemanu Lots									
52	(4) 1-4-003:003	c1922 [1922, 1932]	4	4 or 5	4	Contributing	Integrity maintained; most alterations not visible on main façade	Exemplifies board-and-batten, rustic architecture in early 20th century Kōkeʻe; chimney representative of Halemanu tract	0.96

Lot No.	TMK	Year Built	Architectural or Historical Integrity Rating			Contributing Property Assessment	Historic Integrity Assessment	Significance and Descriptions	Leased Area
			2003	2001	1983				
6	(4) 1-4-003:004	c1932	3	3	3	Contributing	Integrity maintained; effect of modern deck along main façade reversible	Fine example of vernacular rustic architecture; rock chimney, ʻōhiʻa rafters, windows and doors original	0.96
7	(4) 1-4-003:005	c1931	5	3 or 4	2	Contributing	Integrity maintained	Fine example of vernacular rustic architecture; rock chimney, front porch may be altered	0.81
9	(4) 1-4-003:006	c1926	4	4	4	Contributing	Integrity maintained	Fine example of vernacular rustic architecture at Kōkeʻe; shingle cladding is unusual; windows original	0.79
11	(4) 1-4-003:007	c1931	4	4	3	Contributing	Some integrity maintained; additions part of historic fabric, recent changes can be restored	Simple vernacular style; rock chimney; bedroom and kitchen added in late 1930s or 1940s; porch enclosed recently	1.47
13	(4) 1-4-003:008	c1937	3	2 or 3	2	Contributing	Historic and rustic character maintained, added lanai with corrugated roof is in keeping with historic character	Nice example of vernacular rustic architecture; additions to rear of building; concrete lanai added to front	1.12
10	(4) 1-4-003:009	c1931	5	4 or 5	5	Contributing	Integrity of main house and several outbuildings maintained	Fine example of vernacular plantation architecture adapted for Kōkeʻe; rock chimney and stairs of local material	1.42
12	(4) 1-4-003:010	c1918	5	5	4	Contributing	Integrity maintained; relatively unaltered	Fine example of vernacular; rock chimney; unusually large for Kōkeʻe residences	2.00
50	(4) 1-4-003:011	c1926	4	4	2	Contributing	Integrity maintained	Good example of vernacular architecture at Kōkeʻe;	0.80
14	(4) 1-4-003:012	c1927	5	5	4	Contributing	Integrity maintained; skylights added to rear and do not impact historic character	Fine examples of rustic architecture at Kōkeʻe; original windows; large fireplace	2.01
15	(4) 1-4-003:013	c1938	5	5	6	Contributing	Integrity maintained	Fine example of outstanding architecture; contrasts with typical rustic styles at Kōkeʻe; includes fine architectural detail; would qualify individually for National Register	1.82
14	(4) 1-4-003:014	c1938	5	4	2	Contributing	Integrity maintained	Good example of vernacular architecture at Kōkeʻe; building larger than most	1.05
5	(4) 1-4-003:016	c1930	3	3	4	Contributing	Integrity maintained although additions compromise integrity	Good representation of vernacular architecture; modern porch, new windows and satellite dish added	0.98
51	(4) 1-4-003:017	c1929	2	4	4	Not Contributing	Integrity of structure compromised by recent modifications	Plantation-style building typical of Kōkeʻe; recent alterations include doors on front façade, large modern deck, and roof extension	0.58

Lot No.	TMK	Year Built	Architectural or Historical Integrity Rating			Contributing Property Assessment	Historic Integrity Assessment	Significance and Descriptions	Leased Area
			2003	2001	1983				
Kōkeʻe Lots									
60, 63	(4) 1-4-004:001	c1934	2 or 3	3	3	Contributing	Integrity maintained; appearance changed by new porch alterations complement character of house	Example of vernacular architecture at Kōkeʻe; original windows remain	0.66
47	(4) 1-4-004:003	c1930	4	3	2	Contributing	Integrity maintained; some modifications	Fine example of Kōkeʻe rustic vernacular architecture of the late 19th and early 20th centuries	1.21
42, 44	(4) 1-4-004:004	c1930	5	5	5	Contributing	Integrity maintained; porch recently rebuilt but in style similar to original porch	Excellent example of Kōkeʻe rustic vernacular architecture of the late 19th and early 20th centuries; unpainted board-and-batten style maintained	1.44
40	(4) 1-4-004:005	1990s [1987]	1	0	2	Not Contributing	Not historic; not 50 years old		1.11
41	(4) 1-4-004:007	c1924	4	4	0	Contributing	Integrity maintained; front porch rebuilt or added but in keeping with the historic character	Fine example of Kōkeʻe rustic architecture; windows, original wood-burning water heater, and outdoor bathing area on back porch	0.62
43	(4) 1-4-004:008	1988	1	1	4	Not Contributing	Not historic; not 50 years old	Good example of new structure built to complement historic character of Kōkeʻe	0.69
45	(4) 1-4-004:009	c1923	5	4	2	Contributing	Integrity maintained; appears intact and retains many architectural elements	Excellent example of rustic Kōkeʻe architecture of the early 20th century; original windows	1.32
46	(4) 1-4-004:010	c1935	2	2 or 3	3	Not Contributing	Integrity and rustic character compromised by numerous additions; second floor and stairs added; roof line changed, modern windows and jalousies used in addition, front porch modified	Additions inappropriate for 1940s building	1.11
55	(4) 1-4-004:011	1922	1	2	4	Not Contributing	Integrity lost by substantial modifications	Original structure obscured by additions; space beneath house enclosed; windows replaced with aluminum sliding windows and jalousies	0.31
54	(4) 1-4-004:012	c1929	5	5	4	Contributing	Integrity maintained	Fine example of simple, rustic cabins at Kōkeʻe	0.40
22	(4) 1-4-004:013	c1925	3	3	5	Contributing	Integrity compromised by additions; alterations visible on main facade	Nice example of rustic vernacular architecture at Kōkeʻe; sun porch added and garage enclosed	0.51

Lot No.	TMK	Year Built	Architectural or Historical Integrity Rating			Contributing Property Assessment	Historic Integrity Assessment	Significance and Descriptions	Leased Area
			2003	2001	1983				
33	(4) 1-4-004:018	c1925	2	5	3	Not Contributing	Integrity compromised by 1968 remodeling	Structure substantially remodeled in 1968; large deck, aluminum sliding doors, and jalousie added; most alterations not visible from road	0.68
31, 32	(4) 1-4-004:019	1920 [1929, 1935]	5	5	4	Contributing	Integrity maintained; interior includes original doors and hardware, tubs and washbasins, and kitchen equipment.	Excellent example of Kōkeʻe rustic vernacular architecture; one of earliest remaining cabins at Kōkeʻe; unpainted board-and-batten architecture popular in Kōkeʻe's early history	1.90
30	(4) 1-4-004:020		1	0	2	Not Contributing	Not historic; not 50 years old		0.84
29	(4) 1-4-004:021	c1929	3	3	3	Contributing	Integrity maintained; reconstructed porch/entry compatible with building's historic character	Good example of common vernacular of the 1930s; original elements include windows and rock chimney, front porch/entry altered.	0.71
58	(4) 1-4-004:024	c1930	5	5	5	Contributing	Integrity maintained; appears unaltered	Excellent example of Kōkeʻe rustic vernacular architecture; board-and-batten construction; log porch railings; original windows; native rock chimney	1.03
56	(4) 1-4-004:027 (a)	c1926	3		0	Contributing	Integrity compromised by large deck with shed roof but maintains much of its historic character	Original architectural elements include board-and-batten construction and six-light sliding windows	0.50
56	(4) 1-4-004:027 (b)	c1926	2			Not Contributing	Integrity compromised by wheelchair access ramp, addition of modern siding, and jalousie windows; may have been moved from original location in 1985	One of few two-story buildings at Kōkeʻe; vertical-board construction; six-light windows	
61	(4) 1-4-004:028	c1954	5	4	1	Contributing	Integrity maintained	Fine example of vernacular architecture at Kōkeʻe; original double-hung and three-light sliding windows	1.00
27	(4) 1-4-004:030	[1987]	1	0	4	Not Contributing	Not historic; not 50 years old		0.65
D	(4) 1-4-004:032	c1923	3	2 or 3	4	Contributing	Integrity maintained; circa 1938 addition on public façade in character although windows replaced with jalousies; log railing porch replaced circa 1983	Good example of vernacular architecture compatible with the rustic vernacular of Kōkeʻe; may be part of original ranger station;	0.47
24, 25	(4) 1-4-004:033	1921 [1943, 1945]	3	3	2	Contributing	Integrity maintained	Good example of vernacular architecture; one of earliest surviving buildings at Kōkeʻe; larger and more elegant than most Kōkeʻe rustic cabins; placed on the Historic Register in 1991	3.61

Lot No.	TMK	Year Built	Architectural or Historical Integrity Rating			Contributing Property Assessment	Historic Integrity Assessment	Significance and Descriptions	Leased Area
			2003	2001	1983				
20, 21	(4) 1-4-004:035	c1947	3 or 4	3	2	Contributing	Integrity maintained; new roof and front porch do not significantly change building's character	Rustic architectural style of Kōkeʻe	0.93
65	(4) 1-4-004:036	c1951	4	4	2	Contributing	Integrity maintained; minor alterations in back of building; addition to structure of same period and in character although not identical	Simple vernacular Kōkeʻe architecture; includes cabin and shed joined by covered lanai;	0.83
17, 18	(4) 1-4-004:038	recent	1	0	2	Not Contributing	Not historic; not 50 years old or new built over old.		1.66
64	(4) 1-4-004:040	c1937	5	5	6	Contributing	Integrity maintained; appears to be in original condition	Grander than average Kōkeʻe cabin; includes fine architectural details; original windows; ʻōhiʻa railings and posts on front porch; hipped and gable roof are pitched (Dickey "Hawaiian style" roof)	1.07
67	(4) 1-4-004:041	c1939	5	5	4	Contributing	Integrity maintained; one of Kōkeʻe's better examples of intact historic structures	Excellent example of plantation-style, recreation houses built in Kōkeʻe in the 1940s; nice architectural details, hip roof over porch; original windows	0.50
38	(4) 1-4-004:043	c1940	2	2	2	Contributing	Integrity compromised by addition of large deck, French doors, satellite dish, and shake siding	Complements the vernacular rustic architecture at Kōkeʻe although historic character impacted by modifications	0.90
90	(4) 1-4-004:047	[1987]	1	0	0	Not Contributing	Not historic; not 50 years old		0.44
91	(4) 1-4-004:048	c1959	1		0	Not Contributing	No historic integrity, many recent modifications	Original board-and-batten cabin covered by shiplap siding; an addition with larger windows visible from public view	0.58
92	(4) 1-4-004:049	[1984]	1	2	2	Not Contributing	Integrity lost by substantial modifications	Modifications to cabin include large addition visible from driveway, two-story addition, and atrium window on front façade.	0.53
93	(4) 1-4-004:050	1954c	4	2 or 4	2	Contributing	Integrity maintained; no modifications apparent	Nice example of vernacular architecture; simple, small cabin; six-light sliding windows.	0.42
87	(4) 1-4-004:052	[1954]	1	1	2	Not Contributing	Integrity lost through major alterations such as large sliding doors, and siding	Major modifications to cabin evident in 1983 inventory photograph	0.59
88	(4) 1-4-004:053	c1959	4	4	2	Contributing	Integrity maintained	Excellent example of vernacular rustic architecture at Kōkeʻe; exemplifies Kōkeʻe's later cabins built in the older, unpainted board-and-batten tradition	0.54

Lot No.	TMK	Year Built	Architectural or Historical Integrity Rating			Contributing Property Assessment	Historic Integrity Assessment	Significance and Descriptions	Leased Area
			2003	2001	1983				
89	(4) 1-4-004:054	c1954	3	2 or 3	1	Contributing	Integrity maintained; modifications include new porch, picture window, sliding door on main façade; and composition roof; most do not significantly compromise the structures historic character.	Good example of plantation architecture at Kōkeʻe despite changes; earlier porch smaller; includes log railings	0.47
84	(4) 1-4-004:055	c1959	3	3	3	Contributing	Integrity maintained; one addition viewed from main façade fits rustic character; newer additions are inappropriate but are not on main façade	Good example of rustic architecture; board-and-batten construction; log railing porch; several additions	0.67
85	(4) 1-4-004:058	[1959]	1			Not Contributing	Not historic; not 50 years old		0.79
79	(4) 1-4-004:063	c1955	4	3	0	Contributing	Integrity maintained; storage closets and jalousie windows on back wall only apparent changes	Excellent example of plantation-style architecture at Kōkeʻe; rustic interior touches include ʻōhiʻa-branch cabinet handles and paper towel holder; rock fireplace	0.54
72	(4) 1-4-004:068		1	1	0	Not Contributing	Integrity nearly lost by drastic alterations; demolition of addition might restore cabin's historic character	Back of house maintains historic features; an addition visible from public view includes large aluminum-framed sliding windows and doors and concrete block foundation	0.56
75	(4) 1-4-004:069		1	1	0	Not Contributing	Integrity lost by substantial alterations	Inappropriate changes to cabin include aluminum sliding windows, several additions, and decks	0.56
86	(4) 1-4-004:059	c1959	4	4	2	Contributing	Building intact; alterations do not impact front façade	Kōkeʻe rustic vernacular architectural; double gable roof; horizontal siding under front gable	0.58
81	(4) 1-4-004:060	c1960	4	3 or 4	1	Contributing	Not historic but maintains integrity of historic building tradition at Kōkeʻe	Good example of rustic vernacular architecture at Kōkeʻe although not 50 years old; styles reflects rustic board-and-batten architecture of Kōkeʻe early years	0.55
71	(4) 1-4-004:062	c1954	3	2 or 3	1	Contributing	Rustic character and integrity maintained when viewed from road; inappropriate addition to back of structure	Nice example of rustic architecture	0.53

GLOSSARY

PRESERVATION TERMINOLOGY

Preservation projects may include the maintenance of existing historic elements, repairs to deteriorated features, the replacement of missing details, and construction of new additions.

Character defining feature. A prominent or distinctive aspect, quality, or characteristic of a property that contributes significantly to its physical character. Land-use patterns, vegetation, furnishings, decorative details and materials may be such features.

Cultural Landscape. A geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general types of cultural landscapes: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.

Demolition. To tear down or destroy a building or a building element. In a total demolition, the entire structure is removed from the site, including original materials. In other cases, a partial demolition may occur. A rear wall may be removed, for example, to construct an addition. If a partial demolition is extensive, it can result in such a substantial loss of integrity that the building may no longer retain historic significance.

Feature. The smallest element(s) of a property or landscape that contributes to the significance and that can be the subject of a treatment intervention. Examples include a woodlot, hedge, lawn, specimen plant, alley, house, meadow or open field, fence, wall, earthwork, pond or pool, bollard, orchard, or agricultural terrace.

Historic character. The sum of all-visual aspects, features, materials, and spaces associated with a property or landscape's history, i.e. the original configuration together with losses and later changes. These qualities are often referred to as character defining.

Historic property. Any building, structure, object, district, area, or site, including *heiau* and underwater site, which is over fifty years old.

Historic site. A property significant for its association with a historic event, activity or person. Cabins, outbuildings, and lots associated with Kōkeʻe's recreational activities may be considered examples of historic sites.

Historic vernacular landscape. A landscape that evolved through use by the people whose activities or occupancy shaped it. Through social or cultural attitudes of an individual, a family, or a community, the landscape reflects the physical, biological, and cultural character of everyday lives. Function plays a significant role in vernacular landscapes. This may be a district of historic recreation residences built amongst Kōkeʻe's valleys and ridges. Examples include rural historic districts such as Kōkeʻe.

Integrity. The authenticity of a property's historic identity, evinced by the survival of physical characteristics that existed during the property's historic or prehistoric period. The seven qualities of integrity as defined by the National Register of Historic Places are location, setting, feeling, association, design, workmanship, and materials.

Maintenance. Effort to keep a property in good working condition by repairing features as soon as deterioration becomes apparent, and by using procedures that retain a feature's original character and finish. Preventive maintenance is executed prior to noticeable deterioration. No alteration or reconstruction is involved.

Preservation. The act or process of applying measures to sustain the existing form, integrity and material of a building or structure, as well as the existing form and vegetative cover of a site is defined as preservation. It may include initial stabilization work, where necessary, as well as ongoing maintenance of historic building materials. Essentially, the property is kept in good, original condition.

Reconstruction. To recreate a replica of an original feature of a building using new materials. This technique is often used to replace ornamentation that may have been removed or destroyed. When applied selectively in an overall rehabilitation project, reconstruction of missing elements can enhance the historic appearance. (In some rare cases, an entire building is reconstructed to match the original appearance. Such a structure would be compatible with its historic context, but would not be rated as having historic significance.)

Rehabilitation. Rehabilitation is the process of returning a property to a state that makes a contemporary use possible, while still preserving those portions or features of the property that are significant to its historical, architectural and cultural values. Rehabilitation may include the adaptive use of the building, and additions may be constructed.

Remodeling. To remake or to make over the design image of a building is to remodel it. The appearance is changed by removing original details and by adding new features that are out of character with the original. Remodeling is inappropriate for historic buildings.

Renovation. To renovate means to improve by repair, to revive. In renovation, the usefulness and appearance of the building is enhanced. The basic character and significant details are respected and preserved, but some sympathetic alterations may also occur. Alterations should be reversible, such that future owners may restore the building to its original design, should they wish to do so.

Restoration. To restore, one reproduces the appearance of a building exactly as it looked at a particular moment in time. This process may include the removal of non-original elements or the replacement of missing historic features.
Significance. The meaning or value ascribed to a cultural landscape based on the National Register criteria for evaluation. It normally stems from a combination of association and integrity.
Treatment. Work carried out to achieve a particular historic preservation goal.

ARCHITECTURAL TERMINOLOGY

Balustrade. A railing or parapet supported by a row of short pillars or balusters.

Bargeboard. The decorative board along the roof edge of a gable concealing the rafters.

Bay. A part of a structure defined by vertical divisions such as adjacent columns or piers.

Bracket. A wooden or stone decorative support beneath a projecting floor, window, or cornice.

Column. A vertical support, usually supporting a member above.

Dormer. A small window with its own roof projecting from a sloping roof.

Downspout. A pipe for directing rain water from the roof to the ground.

Façade. The front face or elevation of a building.

Fenestration. The arrangement of the openings of a building.

Flashing. Pieces of metal used for waterproofing roof or wall joints.

Gable. The triangular portion of the end of a wall under a pitched roof.
Gable roof. A pitched roof form where two flat roof surfaces joint at a straight ridge, forming gables at both ends.

Hipped roof. A roof with slopes on all four, instead of two, sides.

Light (or lite). A section of a window, the glass or pane.

Lintel. A horizontal beam over an opening carrying the weight of the wall.

Muntin. A glazing bar that separates panes of glass.

Pier. An upright structure of masonry serving as a principal support.

Pitch. The degree of slope of a roof.

Sash. The movable part of a window holding the glass.

Side lights (or lites). Narrow windows flanking a door.

Sill. The horizontal water-shedding member at the bottom of a door or window.

Six-over-six double-hung sash. A type of window with six lites (or windowpanes) each in an upper and a lower sash that move up and down in vertical grooves one in front of the other.

Transom. A window opening over a door or window, usually for ventilation.

Two-Over-Two Double-Hung Sash. A type of window with two lites each in an upper and a lower sash that move up and down in vertical grooves one in front of the other. The lites are created by one vertical glazing bar in the center of the sash.

OTHER TERMS

Accessory Use. A land use that is conducted on the same or adjoining property as the principal permitted or nonconforming land use, whether within the same building, or within an accessory structure, or as an accessory use of the land area; and is clearly incidental to and customarily found in connection with the existing land use.

Abandonment. The failure to apply to re-build a structure within one year of its destruction.

Board. The Board of Land and Natural Resources.

Board permit. A permit approved by the Board of Land and Natural Resources.

Cabin. A lodging unit not more than 800 square feet under roof, intended for occasional use in managing large and/or remote land areas; having access by existing foot trail or jeep trail, and no paved access; and having no electrical or water utility service. Such cabins shall not be used for rental purposes.

Chairperson. The Chairperson of the Board of Land and Natural Resources.

Clearing. The removal of standing vegetation, with no ground disturbance.

Conservation District. Those lands within the various counties of the State and state marine waters bounded by the conservation district line, as established under provisions of Act 187, Session Laws of Hawaii, 1961, and Act 205, Session Laws of Hawaii 1963, or future amendments thereto.

Department. The Department of Land and Natural Resources.

State Parks. The State of Hawaiʻi Division of State Parks.

Dwelling Unit. A room or rooms connected together, constituting an independent housekeeping unit and containing a single kitchen. Two or more essentially separate structures do not constitute a single dwelling unit. A single dwelling unit cannot be constituted by a token connection between separate structures, such as a trellis or covered walkway.

Emergency. An imminently dangerous situation, which poses a substantial threat to public health, safety and welfare as declared by the chairperson of the department or designee.

Forest reserves. Those lands set aside as forest reserves by the Department, pursuant to section 183-11, HRS.

Grading. The excavation of earth material, fill or combination thereof.

Grubbing. The removal of vegetation by scraping, dislodging or uprooting vegetation, which breaks the topsoil.

Land. All real property, fast or submerged, and all interests therein, including fauna, flora, minerals and all such natural resources, unless otherwise expressly provided.

Land use:

(1) The placement or erection of any solid material on land if that material remains on the land more than fourteen days, or which causes a permanent change in the land area on which it occurs;
(2) The grading, removing, harvesting, dredging, mining or extraction of any material or natural resource on land;
(3) The subdivision of land; or
(4) The construction, reconstruction, demolition, or alteration of any structure, building, or facility on land.

For purposes of this chapter, “harvesting” and ”removing” does not include the taking of aquatic life or wildlife that is regulated by state fishing and hunting laws nor the gathering of natural resources for personal, noncommercial use or pursuant to Article 12, Section 7 of the Hawaii State Constitution or section 7-1, HRS, relating to certain traditional and customary Hawaiian practices.

Management plan. A comprehensive plan for carrying out multiple land uses.

Minor. Any use that results in negligible change to or impact to land, a natural resource, or a structure or facility.

Natural resource. Resources such as plants, aquatic life and wildlife, cultural, historic, recreational and archeological sites, scenic areas, ecologically significant areas, and minerals.

Nonconforming use. The lawful use of any building, premises or land for any trade, industry, residence or other purposes which is the same as and no greater than that established immediately prior to October 1, 1964, or prior to the inclusion of the building, premises, or land within the conservation district.

Noxious plant. Those plants as defined in HRS Chapter 152 and Chapter 4-68, subtitle 6, HAR as well as other invasive species as may be defined by the Department.

Plant sanctuary. An area of land set aside to preserve, protect, conserve, and manage particular plant species.

Recreation-residence. A lodging unit consisting of one or more buildings or structures located on state park, forest reserve, or other public lands leased for recreation-residence use. The lodging unit can not be used as a principal residence for a single family or used for rental purposes.

Presiding officer. A person or persons designated or appointed by the board or chairperson to conduct public hearings or proceedings on behalf of the board.

Public purpose use. A land use undertaken in support of a public service by an agency, or by an independent non-governmental entity. Examples of public purpose uses include, but are not limited to public roads, harbors, airports, public water works and other utilities, communication systems, flood or erosion control projects, recreational facilities, community centers that benefit the public, etc.

Repair, maintenance, operation. Land uses and activities necessary and incidental for the continued conduct of a use, whether nonconforming or permitted, including repairs not exceeding 50 percent of the replacement value of the structure or use.

Scenic area. Areas possessing natural, scenic, or wildland qualities.

Significantly different. The alteration of an existing structure, facility, or use that increases the size or height of an existing structure, facility, or use by more than fifty (50) percent.

Shelter. A structure with no more than three walls, used for sheltering from the elements.

Site plan. A plan drawn to scale, showing the actual dimensions and shape of the property, the size and locations on the property of existing and proposed structures and open areas including vegetation and landscaping.

Subzone. A zone established within the conservation district which is identified by boundaries and resource characteristics.

Temporary variance. An exception to zoned use, where good cause is shown and where the proposed variance is for a use determined to be in accordance with good conservation practices.

Topographical features. Natural and artificial geographical features that appear on a topographical map, such as mountains, hills, valleys, streams, wetlands, shorelines, roads, and other such structures.

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03: Conserving Energy in Historic Buildings

04: Roofing for Historic Buildings

06: Dangers of Abrasive Cleaning to Historic Buildings

09: The Repair of Historic Wooden Windows

10: Exterior Paint Problems on Historic Woodwork

14: New Exterior Additions to Historic Buildings: Preservation Concerns

15: Preservation of Historic Concrete: Problems and General Approaches

16: The Use of Substitute Materials on Historic Building Exteriors

17: Architectural Character - Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character

18: Rehabilitating Interiors in Historic Buildings - Identifying Character-Defining Elements

19: The Repair and Replacement of Historic Wooden Shingle Roofs

22: The Preservation and Repair of Historic Stucco

24: Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches

28: Painting Historic Interiors

32: Making Historic Properties Accessible

35: Understanding Old Buildings: The Process of Architectural Investigation

36: Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes

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RESOURCES FOR HISTORIC FIXTURES AND MATERIALS

An excellent source of suppliers of historically appropriate products and services is available from Traditional Building's web site: www.traditional-building.com/8.htm. Products include doors and windows, hardware, ornamental metalwork, woodwork, landscape products, architectural antiques, lighting, masonry and stonework, roofing and siding, surface finishes and coatings, and others.

Hardware

Ball and Ball
463 West Lincoln Highway
Exton PA 19341
Phone: (610) 363-7330
www.ballandball-us.com

Crown City Hardware
1047 N. Allen Avenue
Pasadena, California 91104
Phone: (626) 794-0234
www.crowncityhardware.com/index.html

Fiddler's Hardware
330 Kamani Street
Honolulu, Hawaii 96813
Phone (808) 592-0233

House of Antique Hardware
122 SE 27th Avenue
Portland, Oregon 97214
Phone: (888) 223-2545
www.houseofantiquehardware.com/

Restoration Hardware
104 Challenger Drive
Portland, TN 37148
Phone: (800) 762-1005
www.restorationhardware.com

Plumbing Fixtures

D.E.A. Bathroom Machineries
495 Main Street
Murphys, CA
Phone: (800) 255-4426
www.deabath.com

Ferguson Bath and Kitchen
3116 Hoolako Street
Lihuw, Kauai 96766
Phone (808) 245-6991
www.ferguson.com

Lighting

Classic Illumination, Inc.
2743 Ninth Street
Berkeley, CA 94710
Phone: (510) 849-1842
www.classicillumination.com/

Conant Metal and Light.
266-270 Pine Street
Burlington, Vermont 05401
Phone: (800) 832-4482
www.conantcustombrass.com

Rejuvenation Lamp & Fixture Company
2550 NW Nicolai St.
Portland, Oregon 97210
Phone: (888) 401-1900
www.rejuvenation.com

Repair Materials

Abatron restoration –grade epoxy, available from:
Toolmaster Hawaii
3061 Aukele Street
Lihue Kauai, HI 96766
808-246-1000
Product details:
http://www.abatron.com/

Historic mortars:

Cathedral Stone Products, Inc.
7266 Park Circle Drive
Hanover, Maryland 21076
Phone: (410) 782-9150
Toll-Free Phone: (800) 684-0901
http://www.jahnmortars.com/

Masonry cleaners:

ProSoco, Inc.
3741 Greenway Circle
Lawrence, KS 66046
Phone: (800) 255-4255
Fax: (785) 830-9797
http://www.prosoco.com/