

Feasibility Study and Vision Plan for The Frazee House and Site

1451 Old Raritan Road
Scotch Plains, New Jersey



August 1st 2012
Final Report

Prepared by:

Preservation Architects:

Historic
Building Architects, LLC
312 W. State Street, Trenton, NJ 08618

Landscape Consultant:

Rodney Robinson Landscape
Architects, Inc.
30 Bancroft Mills Road
Wilmington, DE 19806

Branding Consultant:

The Merz Group
1570 McDaniel Drive
West Chester, PA 19380

Education Consultant:

Janice Armstrong
322 Fawnwood Drive
Milford, NJ 08848

Cost Estimator:

Daedalus Projects, Inc.
112 South Street, 2nd Floor
Boston, MA 02111

Funded by:



Fanwood-Scotch Plains
Rotary Society



NEW JERSEY
HISTORIC
TRUST

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

Table of Contents

I	Executive Summary
II	Project Directory Project, Owner, and Investigating Team
III	Introduction Purpose and Scope of Report Acknowledgements Property Description and Setting
IV	Values Introduction Mission Statement Preservation Philosophy Sites Values Prioritized
V	Market Research Target Audiences Strategic Recommendations for Positioning A List of Sample Positioning Lines Strategic Recommendations for Branding Report
VI	Education Education Program Evaluation and Recommendations with One Program Outline
VII	Landscape Evaluation Landscape Strategic Plan Describing Opportunities for Passive Recreation and Integration with Interpretation of the Historic Site and House
VIII	Vision Plan Site Master Plan with Recommendations on Adaptive Use, Barrier Free Access, Parking, Additional Facilities, Landscaping, and a Written Description of Phasing with colored drawings.
IX	Project Budget

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

X Appendices

- A. Meeting Minutes and Power Point Brainstorming Sessions for the Landscape, Branding, and Education Workshops
- B. Survey Questionnaire Results
- C. Preservation Briefs:
 - Preservation Brief 9 - The Repair of Historic Wood Windows
 - Preservation Brief 10 - Exterior Paint Problems on Historic Woodwork
 - Preservation Brief 14 - New Exterior Additions to Historic Buildings
 - Preservation Brief 18 - Rehabilitating Interiors in Historic Buildings
 - Preservation Brief 32 - Making Historic Properties Accessible
 - Preservation Brief 36 - Protecting Cultural Landscapes-Planning Treatment and Management of Historic Landscapes
- D. Management Guidelines for World Cultural Heritage Sites

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

I - EXECUTIVE SUMMARY

The Frazee House is a significant historic property located on the north side of Raritan Road in the Township of Scotch Plains, NJ. The house is important for its place in local Revolutionary War history and for its 18th century timber construction. Unfortunately, after a series of owners and additions in the 20th century, the house became vacant and was listed by Preservation New Jersey on their 1998 Ten Most Endangered Sites in New Jersey.

The Fanwood-Scotch Plains Rotary–Frazee House, Inc. (FSPRFH) has leased a one-acre parcel of land, which includes the Frazee House, from the Township of Scotch Plains and has been working diligently to preserve the house and the surrounding open space. A Condition Assessment and Emergency Stabilization Report was completed in December 2008 and the house was listed on the New Jersey and National Registers of Historic Places in 2009. Most recently a wood assessment report, including resistance drilling to determine the soundness of the framing and dendrochronology to identify its authenticity, were completed; the dendrochronology performed by Dr. Richard Veit confirmed the structure's 18th century origin. Recent construction included the implementation of the emergency stabilization of the wood frame and careful mothballing of the house in 2009, which was funded in part by Union County. The building is now mothballed and stabilized on the interior with a structurally designed interior scaffold support system.

While much has been done to preserve the Frazee House, an appropriate use and interpretation of the property needed to be developed. This task was further complicated by the adjoining 5 acres of open space owned by the Township, which forms part of the rural landscape backdrop to this historic house. For many years the members of the FSPRFH have been focused on preventing further deterioration of the structure itself. In 2010 members of the FSPRFH recognized the need for a vision for the future of the entire property, if the house was to be saved and the support for the property sustained.

The purpose of this Feasibility Study and Vision Plan is to provide a comprehensive road map to achieve the goal of engaging the public and providing a historic site and passive recreation open space that will serve the public as a significant heritage tourism resource in the region. A Vision Plan should be considered a constantly changing document, as building and site conditions change and additional information and research are added. This document is a planning tool and therefore does not provide the necessary documents required for construction. As the implementation of the phased recommendations proceed, the need for additional investigations such as archeology, may be necessary prior to any ground disturbance. The intent of this study is to facilitate and provide FSPRFH with the tools to move forward with converting this historic site into a public, friendly, and accessible facility for everyone to enjoy.

PROFESSIONAL PROJECT TEAM

Historic Building Architects, LLC have coordinated all the consultants and developed brainstorming workshops with FSPRFH and the general public to study the values and identify opportunities for the Frazee House and site. They addressed the physical needs of the site, including parking, barrier-free access, support facilities, and landscaping through the Executive Summary

August 1st 2012

Historic Building Architects, LLC

Section I – Page 1 of 6

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

development of a Master Plan. Janice Armstrong developed a plan for new educational opportunities and future potential. The Merz Group evaluated existing marketing materials and helped FSPRFH to identify a unique marketable identity for the Frazee House. Rodney Robinson Landscape Architects evaluated existing site conditions and developed a concept plan for passive recreational opportunities. Finally, Daedalus Projects Incorporated developed cost estimates for the phased Master Plan improvements recommended by the project team.

REPORT SUMMARY

Values

Three brainstorming workshops were facilitated by HBA to help FSPRFH and the public to appreciate the values of this historic site. The sessions addressed the future use and interpretation of the site through a better understanding of the value of the landscape and historic structure. Emphasis was placed on public participation. Participants included students, teachers, local citizens, neighbors, the Mayor and Council members, and the Rotary Club.

Mission Statement

The mission statement for the Frazee House was reevaluated and redrafted to reflect the goals and preservation philosophy developed in the brainstorming sessions. The new mission statement now includes both the house and adjoining property. The new mission statement reads as follows: *"The Fanwood-Scotch Plains Rotary Frazee House, Inc. is committed to the stewardship of the Frazee House and Site. FSPRFH aspires to preserve and promote the story of the Frazee House and Site to help enrich and enlighten a diverse public of the architectural, educational, agricultural, and recreational values of this colonial site."*

FSPRFH seeks to promote the story of the Frazee House and site through interpretation of various stories, which include the Revolutionary War and the local Battle of Ash Swamp, restoration of the house, archeological investigation, 18th century carpentry and cabinetmaking, and Dutch construction techniques. The most celebrated and recognized story to be interpreted is the story of Aunt Betty Frazee and General Cornwallis. The story is as follows:

After the Battle of Short Hills on June 26, 1777, Cornwallis and his troops passed by the Frazee house as they headed for Westfield. It was about noontime when the army came up to her residence. "Aunt Betty" was baking bread for the Continentals, who were stubbornly falling back before the enemy. The hungry Cornwallis caught the appetizing odors coming from the large dome shaped bake oven. As the line halted he dismounted, went to the door of her home, and with a courtly air requested, "My lady may it please you to give to Lord Cornwallis the first loaf that comes from your oven of baking bread." On saying this he confidently betook himself to a shade tree in the yard, for the day was unusually hot. When the bread was ready to be taken from the oven, Aunt Betty, with a steaming loaf, unhesitatingly complied with the general's request; but on presenting it to him retorted, "Your lordship will please understand that I give this bread in fear, and not in love." Standing before her in military salute with admiration for her courage, Cornwallis replied, "Not I, nor a man of my command, shall accept a single loaf." As recalled in secondary source materials. (Marion Nicholl Rawson, *Under the Blue Hills* (Plainfield, New Jersey: Interstate Printing Company, 1974), 175-176; Frederick W. Ricord, *History of Union County* (Newark, New Jersey, 1897), 513; Honeyman, *History of Union County*. 502).

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

Market Research

Market research was conducted to identify strategic branding opportunities unique to the Frazee House and to the Aunt Betty story. The study identified several unique selling points, including the character and story of Aunt Betty Frazee, the nature and the size of the grounds, and the historic house itself. The marketing study also identified key target audiences, which include families, school groups, organized events, as well as heritage tourism.

Recommendations included renaming the house and property to make the Aunt Betty Frazee character the center point of the experience, not the house, in addition to selling a variety of home baked breads and the promotion of the Aunt Betty Frazee character an experience throughout the area using social media. Recommended tasks to accomplish these goals included a redesign of signage for the site, developing promotional tie-ins with local businesses, the design of a brochure, and a redesign of the website for ease of use.

Education Evaluation and Recommendations

The current and future educational opportunities for the Frazee House were evaluated in a brainstorming session. Existing educational opportunities include area Rotarian supported events, service learning projects by several school groups, the participation of local Girl Scout troops, as well as a radio broadcast channel that plays the Frazee House story. The current attendance for these events is limited. The community would like to see educational opportunities extended to include more school age programs, as well as family events and adult programs. School age programs would include further enhancing the local classroom curriculum, summer programming, and outdoor concert and movie nights for area youth. Family programs would include nature walks, a “living museum,” as well as “Scotch Plains Day,” a carnival-like event with vendors and local business’s participation. Adult programs would include community gardening, historic house care and repair, as well as partnering with NJ Universities for credit and non-credit programs in a variety of disciplines.

Recommendations included the enhancement of the existing traveling educational program to increase awareness of the Frazee House in the community. In addition, an interpretive plan and long-range education plan should be developed to address and incorporate the community’s desires with local educators included in the program development.

Landscape Evaluation and Opportunities

Landscape evaluation involved a community brainstorming workshop in which the public was invited to walk the Frazee House property and adjacent 5 acres. The landscape architect identified several opportunities for landscape features and interpretation and carefully listened to the community and their interests. Hazardous and inadequate site conditions were also identified. These include dead trees and diseased limbs, crumbling pens and site features from the Terry Lou Zoo, as well as an exposed well, which needs to be closed up as soon as possible.

Landscape architects then recommended several features be considered for future development and interpretation, including an orchard, community gardens, a wildflower meadow, picturesque landscape parkland, and the environmental opportunities along local branch of the Rahway River. Development of these features should include re-vegetation when necessary and the

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

enhancement of existing vegetation and the eradication of invasive species. To increase ease of use, it is recommended that several pedestrian entry points to the site be created and connect to existing street sidewalks and a newly created “loop-path” through the site for recreational walking and enjoyment. This would encourage greater use and exposure of the Frazee House site in the community. The beauty of the setting amazed many on the walking tour and the views of the Frazee House, which are relatively unchanged from the farmland that originally surrounded the house.

MASTER PLAN

The Master Plan is the culmination of the brainstorming sessions and takes into consideration the values identified by the community and develops recommendations based on the project team’s experience and knowledge of successfully revitalized historic sites. The result is a set of concept drawings that focus on the visitor’s experience. Practical considerations for a site used by the public have to be overlaid with the community aspirations for the site, these include vehicular and pedestrian circulation, parking, accessibility, infrastructure, lighting, security and restrooms. The House and its future use and integration into the site use, as well as a code study were also considered and resulted in suggestions for adaptive use and necessary upgrades. All of this information was developed into a phased implementation that is realistic and practical to achieve.

SUMMARY OF RECOMMENDED WORK AT THE FRAZEE HOUSE AND SITE

In order for FSPRFH to successfully embark on supporting the transition of the property into public use, HBA has recommended that the master plan recommendations for the Frazee House and Site be divided into three manageable phases.

Phase IA & IB: Welcoming the Public Back to the Property

The First Phase will focus on bringing the public back to the site. The success of the restoration of the house and site is contingent upon continued public interest and support. Phase I implements items in the Master Plan that will result in immediate public use. In addition, it is hoped that the house can be structurally stabilized and the front façade restored to improve public perception of the site. At the end of Phase I, the site will be much more welcoming and available for various uses including gardening, educational programs, a farmer’s market and passive recreation. Phase I is separated into two stages, “A” & “B”, to break this larger task into manageable and achievable parts; part “A” focuses on the larger site and landscape elements, while part “B” focuses on the property immediately adjacent to the Frazee House to correspond with area leased by FSPRFH.

Phase II: Providing More Public Amenities

This phase will include completing the exterior restoration of the house and constructing new restrooms that can be accessed by the house and park. The landscaping for the south side of the site will be completed. At the end of the Phase II, the site will be ready to host large public activities such as concerts and weddings with a tent area and support utilities (electric and water).

Phase III: “Welcoming the Public Back to Frazee House”

The Third Phase will address the interior restoration of the house. Many uses have been

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

identified during the vision planning process, however, we believe the actual use of the interior will become clearer once the first two phases are complete. A new ‘multi-purpose barn’ is also recommended to provide a covered location where outdoor educational classes, workshops, markets, etc. can be accommodated during inclement weather. The landscaping on the north side of the site will be completed, and a bridge connecting the north and south sides of the property across the stream will be installed. At the end of Phase III the site and house restoration will be complete and the house will be available to be used for an appropriate uses with barrier free access to the first floor.

SUMMARY OF CONSTRUCTION COSTS FOR THE FRAZEE HOUSE AND PROPERTY

The proposed Master Plan recommendations were prepared by Daedalus Projects Incorporated and estimated by phase on May 15th 2012. Estimates below include overhead and profit at 10%, with estimated inflation for the cost of construction in the anticipated year shown in the right column. At this schematic phase, we have included a 20% Design Contingency for changes in scope as the design is developed in greater detail for each phase.

<u>Master Plan Implementation by Phase</u>	<u>Est. Construction Costs</u>	<u>Anticipated Commencement of Construction</u>
Phase IA- Immediate Construction Work	\$408,955	2013 (2% escalation)
Phase IB- Near-Term Construction Work	\$613,565	2015 (5% escalation)
Phase II- Mid-Term Construction work	\$311,114	2018 (12% escalation)
Phase III- Long-Term Construction Work	\$537,968	2023 (25% escalation)
TOTAL	\$1,871,602	

Professional services **are not included** in the estimates above and are estimated at 10% of the construction costs.

Only a portion of the overall site - approximately one-acre with the Frazee House is leased to FSPRFH. The remaining portion is owned and maintained by the Township of Scotch Plains. Making this plan a reality would require a joint effort by both the FSPRFH and the Township. The table below breaks out expenses between both parties during each phase of work. Expenditures are relatively even with the Township performing a majority of the site cleanup and upgrade work and FSPRFH responsible for the restoration and adaptive use of the Frazee House and adjacent one-acre property. Both parties share the costs for site utility upgrades and installation.

	<u>Phase IA</u>	<u>Phase IB</u>	<u>Phase II</u>	<u>Phase III</u>	<u>Total Cost</u>
FSPRFH	\$38,418	\$491,903	\$204,787	\$331,383	\$1,066,491
Township of Scotch Plains	\$370,537	\$121,632	\$106,327	\$206,585	\$805,081

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

PRELIMINARY PROJECT SCHEDULE FOR MASTER PLAN PHASE IA

New Jersey Historic Site Management Grant Application	September 2012
Fundraising by FSPRFH	2012-2013
Begin Construction Documents for Phase IA	September 2012
Client Review and Approval of Construction Documents	January 2013
Prequalify Contractors	February 2013
Bid Packages Issued to Qualified Contractors	April 2013
Bids Received and Construction Contract Awarded	June 2013
Construction for Phase IA Site Work Begins	July 2013
Construction Complete	October 2013

CONCLUSION

The Executive Summary focuses in some detail on the Master Plan, which addresses the physical needs to accommodate visitors at the Frazee House site. However, this should be done in conjunction with the recommendations for education and marketing opportunities. The purpose of this report was to provide a holistic approach to the restoration and adaptive use efforts. Based on public input, there will need to be considerable collaboration between FSPRFH and the Township of Scotch Plains to successfully implement this Vision Plan.

This Vision Plan has tried to be realistic in its recommendations, and we believe that much of what has been proposed can be achieved within the recommended timeframes. There is now a roadmap for this unique historic site, and it has been exciting to see the enthusiasm and interest that this Vision Plan process has promoted among Rotary members, the Township leaders, and the public. The property has so much to offer in helping us understand our cultural heritage. It is a wonderful resource, and with this Vision Plan, these opportunities can become a sustainable reality.



LEGEND

- LAWN
- MEADOW
- TREE CANOPY



RODNEY ROBINSON
LANDSCAPE ARCHITECTS, Inc.

30 Hill Road, Bancroft Mills
Wilmington, DE 19806-2034
tel: 302.888.1544 fax: 302.888.1546

Project Name
FRAZEE HOUSE

1451 Raritan Rd
Scotch Plains, NJ 07076

Sheet Title
VISION SITE PLAN

Revision	Date
	APR 17, 2012

Drawn: AS/AV
Checked: RDR
Scale: As Noted
Date: DEC 22, 2011

Sheet No.
L2

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

SECTION II – PROJECT DIRECTORY

Client:

Fanwood-Scotch Plains Rotary Frazee House, Inc.

Andrew G. Calamaras, President
dimarc@att.net

P.O. Box 426
Fanwood, NJ 07023
Tel 908-490-0742
Fax 908-490-0747
Cell 908-400-5228

Neil Schembre, Vice President
schemcpa@aol.com

South Avenue
Fanwood, NJ 07023
Tel 908-889 -9800

Blanchard Hiatt, Secretary
workingmessages@comcast.net

1255 Christine Circle
Scotch Plains, NJ 07076-2628
Tel 908-233-9194

Sean Duffy, Treasurer
sduffycpa@erols.com

328 Park Avenue
Scotch Plains, NJ 07076
Tel 908-490-1875

Consultants

Preservation Architects and Facilitators:

Historic Building Architects, LLC

Annabelle Radcliffe-Trenner, Principal
art@hba-llc.com

312 West State Street
Trenton, NJ 08618
Tel 609-393-3999
Fax 609-393-4333
Cell 908-420-2885

Sophia Jones, Project Manager
sj@hba-llc.com

Landscape Architect Consultant:

Rodney Robinson Landscape Architects, Inc.

Allan Summers
asummers@rrla.com

30 Hill Road Bancroft Mills
Wilmington, DE 19806
Tel 302-888-1544
Fax 302-888-1546
Cell 610-329-1513

Education Consultant:

Janice Armstrong

janarmstrong8@msn.com

322 Fawnwood Drive
Milford, NJ 08848
Tel 908-995-0605
Cell 908-797-2636

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

Market Research and Branding Consultant:

The Merz Group

Andy Merz

amerz@themerzgroup.com

Westtown Business Center

1570 McDaniel Drive

West Chester, PA 19380

Tel 610-429-3160

Fax 610-429-3810

Cost Estimators:

Daedalus Projects Inc.

Richard Marks, President

Delwyn Williamson, Estimator

dwilliams@dpi-boston.com

112 South Street

Boston, MA 02111

Tel 617-451-2717

Fax 617-451-2679

SECTION III – INTRODUCTION

Project Goal and Preservation Philosophy

The Feasibility Study and Vision Plan for the Frazee House and site is designed to provide the Fanwood-Scotch Plains Rotary Frazee House, Inc. (FSPRFH) with a 10-year road map for the site (which encompasses the 5 acres surrounding the house plus the one acre on which the house sits) under their stewardship. It will ensure that the public benefits fully from this significant historic site. The report will focus on 3 areas: 1) socio-economic, cultural and political evaluation of the properties; 2) market research and branding to define the image, potential audiences, and attractive public programs; and 3) a 10-year Vision Plan to review interpretation, house operations, access, public safety, with strategies to implement these recommendations.

The Feasibility Study and Vision Plan seeks to provide FSPRFH with a clear direction on how to proceed with the successful revitalization of the house and site balanced with the need to ensure that the entire site (house and site) is sufficiently updated to make certain of their continued use for future generations.

Purpose and Scope of Report

Appropriate planning should always precede preservation work or any other “intervention”. The expenditure of financial resources on a historic structure is well protected with the knowledge that all work items are planned in a sensible sequence. A Feasibility Study and Vision Plan is therefore a critically important planning tool.

This Feasibility Study and Vision Plan is intended to provide a direction for site values and development, tourism, and education programming for the Frazee House and site in Scotch Plains, New Jersey. Historic Building Architects, LLC have coordinated all the consultants and developed workshops with FSPRFH to study their values and identify the authenticity of the house and site. They have addressed the needs of the site including parking, barrier free access, additional facilities and landscaping to allow the vision to become a reality through the development of a Master Plan. Rodney Robinson Landscape Architects developed a Strategic Landscape Plan that looked at integrating the adjacent 5 acres of open space and the Frazee House with its one-acre of land. They also identified opportunities for passive recreation and education. Janice Armstrong has evaluated the current and future education programming needs and developed an educational outline as well as a school information package. The Merz Group evaluated the marketable potential and helped FSPRFH to identify a unique marketable identity for the site as a whole. Daedalus Projects, Inc. has developed a cost estimate for the Master Plan improvements.

This report concludes the vision-planning phase of the project but does not generate the documents required to implement the recommendations mentioned herein. It places the current house and landscape in perspective, considers the history of the sites, their cultural value and evolution over time. With this information in hand, FSPRFH can identify the organization’s priorities and establish a work program to allow the 10-year vision plan to become a reality.

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

Acknowledgements

This study is the result of a collaboration of professional experts in the field of historic preservation, education, marketing, heritage tourism, and museum studies. Without advice, support, participation and encouragement from all team members, this report would not have been possible. Moreover the contributions and insights from members of FSPRFH at three days of intensive workshops in December 2011 and January 2012 provided the consultants with much of the information in this planning report. HBA would like to thank Andy Calamaras, Blanchard Hiatt, and the Fanwood-Scotch Plains Rotary Frazee House, Inc. for their continued advice and support. We would also like to thank Chris Marion for coordinating the Press Releases to help encourage the public to participate in the Workshop process. HBA thanks the Honorable Scotch Plains Mayor Nancy Malool and Council for their support in proceeding with this Vision Plan for the entire Frazee site. This study was funded in part by a matching grant from the Garden State Historic Preservation Trust Fund, which is administered by the New Jersey Historic Trust.

Conditional Statement

This Feasibility Study and Vision Plan should be considered a living document and one that is subject to re-evaluation and revision from time to time as future discoveries (both physical and documentary) come to light and as programmatic realities evolve.

The statements and opinions expressed herein are solely for the use and information of FSPRFH. The opinions reflect the professional judgments of a Registered Architect qualified in the field of historic preservation performing services that are usual and customary. Conclusions drawn in this report are largely based on the workshops completed with FSPRFH members and the general public in December 2011 and January 2012, as well as information gathered from the online survey.

Property Description and Setting

The Frazee House and site is located near the intersection of Raritan Road and Terrill Road. The Frazee House is located at the northwest corner of this intersection at the northern edge of the Ash Swamp and at the eastern edge of the Short Hills, a glacial moraine. Robinson's Branch of the Rahway River, which here runs roughly parallel to Terrill Road, is located 180 feet east of the house. Land now in use as the Ash Brook Golf Course is located across Raritan Road to the south. This land was part of the Frazee property until the 1950s. An asphalt-paved area is located along the east elevation. Partially demolished concrete pads are located immediately adjacent to the house to the north-northwest. The remainder of the sloping property is covered with grasses and scattered mature trees.

The Frazee house is a 2-story frame dwelling of 18th-century origin, with a 1 ½-story frame wing. The rectangular-plan building has a gable roof with close eaves and parged brick chimneys at the gable ends. The walls are covered with wood shingles over beaded weatherboards and the roof is covered with asphalt shingles over wood shakes. The building rests on a fieldstone foundation.



**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

SECTION IV – VALUES

Introduction

The purpose of this section was to help members of the Fanwood-Scotch Plains Rotary Frazee House (FSPRFH), Inc. to understand the values of the Frazee House and site. The aim is to develop a Mission Statement and Preservation Philosophy, which will help guide the future of the Frazee House and site.

Mission Statement

Members of the FSPRFH reviewed the current Mission Statement and modified the statement to reflect the values identified from the community workshops and questionnaire for the Frazee House and site.

The current Mission Statement is:

To develop a historical setting that inspires community, state, and national pride and creates opportunities for a wider range of community activities.

In developing the new Mission Statement, members of the FSPRFH established the following vision for the house and property:

- ❑ FSPRFH is committed to sustained efforts to work with the community to achieve a consensus for a role for the Frazee House and its surrounding property controlled by Scotch Plains Township.
- ❑ FSPRFH's goal is to encourage the community's appreciation of the unique and authentic trace of Revolutionary-era America that the Frazee site retains; and to evolve the site into a community amenity that includes gardens, orchards and walkways displaying a vista virtually unchanged since the Revolution when it was a landscape where armies marched.
- ❑ FSPRFH is committed to the stewardship of the Frazee House and propose a fiscally responsible multi-phased effort to raise funds to ensure the survival and preservation of the house by retaining its character as a rare, even unique, example of common people's ('vernacular') architecture during the colonial period.
- ❑ Based on extensive community input gathered during the community workshops and questionnaire responses, FSPRFH envisions a Frazee House that is restored to enable use for public meetings, exhibits featuring the house's long life and its evolution as a farmstead, educational programming on colonial life, and celebrating the stirring story of Aunt Betty Frazee's encounter with powerful British generals. The careful restoration of the kitchen where Betty baked the bread at the heart of her story is paramount.
- ❑ FSPRFH plans for the restoration and development to be conducted to retain 18th-century architectural values, enabling study of local colonial techniques, while also as funding permits, creating outbuildings such as a shed and barn (where an earlier barn once stood), with modern accessible facilities, including a point for barrier-free access to the Frazee House and parking for cars and buses.

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

- ❑ FSPRFH is committed to supporting an end-state in which the local community and New Jerseyans widely- students, citizens, and visitors - are aware of, excited by and proud of their heritage of independence and nationhood as reflected in a revitalized Frazee House and acreage.

In reviewing the Mission Statement it was noted that the current statement does not identify the uniqueness of the site. It was determined that the new Mission Statement should reflect the site as a whole and include both the house and site. Several items were identified as important elements to include in the Mission Statement:

1. Community involvement.
2. Both building and site should be included.
3. The land and setting.
4. The story of Aunt Betty Frazee and the Revolutionary War and their interpretation.
5. Social history, in particular colonial domestic traditions.

The following revised Mission Statement was drafted and should be reviewed by FSPRFH, revised if necessary, and adopted:

The Fanwood-Scotch Plains Rotary Frazee House, Inc. is committed to the stewardship of the Frazee House and Site. FSPRFH aspires to preserve and promote the story of the Frazee House and Site to help enrich and enlighten a diverse public of the architectural, educational, agricultural, and recreational values of this colonial site.

Preservation Philosophy

To identify the preservation philosophy for the Frazee House and site, the significance of the resource was identified to determine its cultural heritage value. A Cultural heritage site is one that exhibits universal value and embodies the cultural identity of a place. The following items were specifically identified as important to the Frazee House and site.

1. The building/architecture.
2. Evolution of the site and landscape.
3. The connection to people.
4. The Aunt Betty Frazee Story.
5. Social customs (traditions).
6. Telling cultural heritage through interpretation.

While the exterior of the Frazee House remains mostly intact, the remaining interior finishes are minimal therefore under the Secretary of the Interior Standards; the house is determined to need “rehabilitation.” The site and setting should follow the guidelines for “preservation and rehabilitation.” 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. Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction.

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

In summary the preservation philosophy is as follows:

Preservation Philosophy

- **Rehabilitate the building to preserve its architectural character but also permit limited modifications to allow for flexible use of the building.**
- **Preserve in large part the land to encourage public use.**
- **Allow for some rehabilitation to the site to provide access and limited services.**

Levels of Authenticity

Authenticity is one of the World Heritage Management guidelines used to evaluate a cultural heritage site. In order to properly assess the authenticity of the site, the guidelines require the original integrity through to the evolved present to be assessed in four areas: design, materials, workmanship, and setting. In addition to this, a heritage site must be assessed from creation to the end of creation and the present what is referred to as the “historical timeline of change.” Each heritage resource is unique in relation to the historical timeline because it tells a story of change, which is non-renewable.

The Period of Creation is identified to be 1761 when the original house on the site was purchased and significantly enlarged by Gershom Frazee, an accomplished carpenter and joiner. The most valued aspect of authenticity is the setting followed by the building elements such as the wood frame construction, windows, and cabinetry, which remain and the workmanship represented by the carpentry skills and vernacular architecture of the period. Finishes, however, have no apparent authenticity for this creation period. The property is also the site a documented Revolutionary war incident between Aunt Betty Frazee and General Cornwallis in 1776. The second period of authenticity to be considered is 1949-1994 when the property was used as the Terry Lou Zoo. There are remnants of the zoo still extant on the property. It was important to consider the zoo because many citizens that participated in the workshops and questionnaire could identify the property with the existence of the zoo, not the Aunt Betty Frazee story. The degree of authenticity for the period is low because minimal remains exist including depressions in the earth where animal pens used to be as well as a man made pond. The period of creation for the site will continue to be 1761 with the properties association with Gershom and Elizabeth Frazee.

Values

In order to complete the full cycle of understanding of the house and site, their values must be identified. Under the World Heritage Evaluation guidelines, these Values are not just limited to cultural values but should also include social, economic, political, and educational values in order to form a balanced judgment on the value of the house and site. The following is an assessment using the values criteria listed using the World Heritage guidelines and identified during the community workshops. Below is a list of Values identified as important:

- a. Economic- tourism, revenue, funding potential, real estate value.
- b. Education- programs: local schools and higher education academic institutions, historic interpretation.
- c. Social- integrity value, community, local environmental, cultural exchange.
- d. Political- education: Child and Adult programs, (S) land preservation, potential education opportunities.
- e. Functional- (H) education, museum (S) Education, recreation, entertainment, agriculture

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

- f. Identity- age, tradition, community, (H) legend, (H) political, (H) patriotic values, education.
- g. Artistic/ Technical- (H) Colonial.
- h. Rarity- (H) unique as a residence in the Colonial Period, (S) unique as a landscape.

H = Frazee House

S = Frazee Site

Frazee House Strategic Branding Overview



The following strategic branding overview is based on:

- Reviewing the Frazee House website and other web articles
- Reading reports from town meetings
- Reading documents provided by Historic Building Architects
- A visit to the location
- Participating in a “Brainstorming” session in Scotch Plains in December, 2011

Current Marketing Effort

The Frazee House is currently marketed through the use of three tools- a website, radio-transmitting interpretive device and interpretive sign. The radio-transmitting device was made possible through a 2006 New Jersey Historic Trust HSM grant. Visitors to the site can pull into the driveway and tune to an FM station to listen to a professionally recorded script of the account of Aunt Betty and her encounter with General Cornwallis as well as information regarding the restoration of the house. Over the last five years local student school groups as well as those passing by the house have heard this presentation.

Background and Focus

The Frazee House, even before it’s current “shuttering” has not enjoyed the reputation as a main attraction in the Scotch Plains/Fanwood area. The Cannonball House Museum in the busier “north/historic” side of town is well known and features costumed docents. In all, there are more than 40 historic sites and homes in the downtown and Southside historic districts. The Frazee House is just another “me too” brand in this crowded landscape.

Now is the perfect time to rebrand the Frazee House. This must be looked at as an opportunity, not a problem to fix. You have many strong selling points to build upon. The past is the past. The zoo is history. There is an entirely new group of homeowners and visitors in and around Scotch Plains.

Historic houses, on the whole, are not major draws. They are niche attractions that appeal primarily to an older audience and younger school children as part of field trips. They do not have the “buzz” that makes them must see attractions. They do not appear on many “bucket lists.”

The Frazee House, incredible as it may seem, has the potential to stand out and become a “must visit” attraction. The House has one thing that sets it apart from every other historic attraction in New Jersey: Aunt Betty and her bold, appealing story. It is very typical in this current day and age – a woman having the courage to stand up for one’s beliefs against a bigger and more powerful foe. Also having the main “character” (this is a story) be a female with an imaginative name adds to the folklore and appeal.

Aunt Betty is the brand. Her story is captivating and unique. There are many historic houses in New Jersey but only one Aunt Betty Frazee. This should never be overlooked. The Aunt Betty story and property, if designed and promoted well -- will bring visitors, interest and pride to the House and to Scotch Plains.

You must turn the Frazee House into an experience -- one that visitors will enjoy, remember and tell their friends and family about.

Top Branding Goal

Position the House as an enjoyable experience, not as a historic house.

Job #1

Get the “Aunt Betty brand” looking as good as possible before unveiling any promotion. Make sure that the grounds, House, signage and overall experience are inviting and deliver on an exceptional visitor experience.

Core Purpose

To give adults and children a rich appreciation of revolutionary times and a truly revolutionary woman -- in a beautiful, comforting and engaging environment.

Unique Selling Points

- The story
- The character (Aunt Betty)
- The location (excellent location with lots of drive by traffic)
- The grounds (suitable to make bucolic and inviting)
- The house
- The history

Key Target Audiences

- Families in Scotch Plains and Fanwood
- Families up to 20 miles away
- School systems (elementary schools primarily)
- Event planners (host events here)
- Media/journalists (visit/write stories)
- Community partners –Panera Bread, local merchants
- NJ Office of Tourism (get House on the map of visitors)

The Aunt Betty Frazee House Experience: 2013

You drive into the town of Scotch Plains and see directional signs for the Aunt Betty Frazee House (located in the quiet south side of town) described as a revolutionary house, home to a truly revolutionary woman. As you make the turn down windy Raritan road you see another sign that says you are minutes away from meeting Scotch Plains’ real first lady – Aunt Betty Frazee. As you come upon the property, you notice the bright, colorful Aunt Betty Frazee House sign, which leads you into the welcoming property.

The setting is peaceful and beautiful with gardens, a gently rolling stream, Adirondack chairs and ample parking. You also notice children on ponies in the distance. Clear way-finding signage

instructs you to the “Gardens” and Main House. It all has the feeling of an arboretum. As you walk towards the House, fresh baked bread is in the air. As you enter the House you are greeted by Aunt Betty herself. A likeable, charming woman welcomes you, asks you where you are from and directs you to sample her fresh baked artisan bread. She hands you a nicely designed brochure, which describes her story and the House and suggests you take a look inside and also take a walk in her gardens. Of course you have your picture taken with Betty as a keepsake.

After your tour of the inside, you stroll outside and imagine what it must have been like when Betty confronted the General and his Redcoats. You think about this wonderful experience and how it was so much different than you imagined. You have relived a slice of history in a comforting setting (not to mention having enjoyed a slice of delicious bread from Aunt Betty’s bake shop).

Recommendations

Strategic

1. Change the name to the Aunt Betty Frazee House or the Aunt Betty Frazee House & Gardens
2. Make Aunt Betty Frazee a name that is thought of with the most notable women of her time--Betsy Ross, Molly Pitcher and Martha Washington
3. Sell a variety of home baked artisan breads at the House (as well as jams, other spreads). “The Aunt Betty Bakery.” Also develop an Aunt Betty Bread Book of recipes
4. Host ongoing re-enactments with refreshments and bread
5. Spread awareness of the “new” Aunt Betty Frazee House that it is open, has good visiting hours, is the perfect picnic spot and now offers breads (and teas, juices etc.)
6. A park/gardens onsite could be named the Aunt Betty Arboretum
7. Add in other amenities such as pony rides on select dates, but be simple in your endeavors. You do not want the impression that there is a full “zoo” on the property
8. Develop a Young Friends of Aunt Betty Frazee Group. Have them build awareness via social networking about the House and its story and as a wonderful place to host an event. Host a fun event geared toward college students, young adults—“The Party where you get crazy at the home of Aunt Betty Frazee.”

Tactical

1. Re-design the sign outside the House to be appealing and simple
2. Install directional signs in/throughout Scotch Plains
3. Seek a promotional tie-in with local Panera Bread store(s). Develop an Aunt Betty

specialty bread

4. Have an Aunt Betty character at multiple events in Scotch Plains and in surrounding towns, not just once a year. Have this character visible on an ongoing basis
5. Hold a major grand opening ceremony once the house, grounds, “new brand” are ready for unveiling. Have all your pieces in place. Dazzle at the opening
6. Redesign the website to be easier to use and have more of a retail/consumer feeling
7. Design an appealing brochure to hand out at the House and make available at local stores and other venues
8. Develop an Aunt Betty “following” via Facebook (remember she is the brand, not the House)
9. Invite journalists, press (local and national) to experience the new Aunt Betty Frazee House
10. Have a local theater company write and produce an original, contemporary play based on the story
11. Sponsor a festive “Redcoat” Fundraising Ball on behalf of the House where invitees are asked to dress in red
12. Hold summer concerts on the property where visitors can bring wine and cheese to enjoy with their Aunt Betty breads
13. Host an event through the Crossroads for American Revolution
14. Have the site listed in the New Jersey Women’s History Trail book which celebrates the contributions of women to New Jersey history

Sample Theme Lines

- AUNT BETTY FRAZEE HOUSE
The house. The history. The heroine.
- AUNT BETTY FRAZEE HOUSE
The story is revolutionary and so is the woman.
- AUNT BETTY FRAZEE HOUSE & GARDENS
Experience the wonder of it all.
- AUNT BETTY FRAZEE HOUSE & GARDENS
A revolutionary experience.

Sample Ad/Brochure/Flyer Messaging

1. *You know these 3 notable women of early America:*

Betsy Ross
Martha Washington
Molly Pitcher

Get to know this one:

Betty Frazee

2. One of the most notable women of early America is right in your backyard. Get to know her.

Sample Development/Fundraising Appeal

1. Give us some bread and we'll give you some.

(Thank you for your support of the Aunt Betty Frazee House. For your contribution enjoy two loaves of Betty's hot, homemade bread. Bring these downloadable coupons to the House).

Measurement of Success of Branding

Creating the experience (don't brand until you have it right)

- # of visitors
- Donations
- Visits to website
- Sales of product (breads etc.)
- Events held on property
- Increased awareness
- Increased publicity
- Buzz and acceptance in local community
- Stability for the long run

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ



Educational Programming at the Frazee House Site

To evaluate and grow the educational opportunities and programming at the Frazee House site several different community indicators were studied including the Frazee House Vision Plan Survey results, discussions with the Fanwood-Scotch Plains School staff and the community feedback provided by the brainstorming sessions. The community has a clear vision of what they want to happen at the Frazee site supporting the mission to develop a historical setting that inspires community, state and national pride and creates opportunities for a wide range of community activities.

Evaluation of Current Educational Opportunities

Due to the rustic nature of the site and lack of facilities at the Frazee House there have been limited opportunities for educational programs. Some of the current opportunities and events are listed below.

- The area Rotarians have sponsored several events to increase the awareness in the community about the importance of the site as well as provide site cleanup and maintenance.
- The local Girl Scouts heard the story of Aunt Betty Frazee and baked bread towards earning a badge.
- Several school groups have made the Frazee House a focus of their Service Learning projects.
- By tuning your car radio to 106.9 FM you can learn more about the Frazee House restoration.

Community Vision of Future Educational Opportunities and Events

After considering many possibilities, the community envisions a multi-faceted use and interpretation of the site, which would include, but not be limited to the following:

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

Events for All

- “Scotch Plains Day” – Carnival-like with vendors & businesses
- Nature walks
- Archaeology & Astronomy opportunities

Adult Programs

- Community Gardening
- Historic house care and repair workshops
- “Weekend Themes” incorporating both lecture and hands-on learning. Example- Exhibit and demonstration of carpentry tools
- Partner with NJ universities to offer both credit and non-credit programs in
 - Museum Studies
 - Culinary/Pastry
 - Vo-Technical
 - Wood Craft/Carpentry
 - Husbandry/Animal Care
 - Brewing/Wine
 - Landscape Architecture/Horticultural
 - Architecture/ Building Construction

School/Child Programs

- Enhance classroom curriculum related to local history (Grade 3) and the Revolutionary War (Grades 5 and 7)
- Partner with Union County’s 5 magnet high schools
- Encourage students (Grades 5 and 8) to use the Frazee House for Service Learning Projects
- Offer summer programs highlighting different history/nature themes
- Plan multi-age participation programs. Example- High school students develop history and environmental science programs about the Frazee property and teach elementary students.
- Provide a meeting place for young people offering outdoor concerts and movie nights

Family Programs

- Create a “Living Museum” highlighting the sites farming and zoo history where families can feel safe, have fun and learn something
- Offer pony rides on select weekends

Educational and Interpretive Possibilities

Considering the site’s assets and value, the community has reasoned that the Frazee House has the potential to tell several important stories. These include but are not necessarily limited to the following:

- The story of the Revolutionary War and the local Battle of Ash Swamp
- The story of Aunt Betty Frazee and General Cornwallis

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

- The story of the Frazee House restoration and archaeological investigation
- The story of 18th century carpentry and cabinetmaking & Dutch-American construction techniques
- The story of the Terry Lou Zoo

While many of the interpretive possibilities consider the contributions of Aunt Betty Frazee, it should be noted that her husband Gershom Frazee is also worthy of consideration. Gershom Frazee Gershom, while relatively unknown, is a well-documented carpenter and joiner whose work ranged from constructing houses and mills to creating cupboards, desks, cradles and coffins for regional customers. His presence is undeniable on the site. He is responsible for the construction of the Frazee House, as we know it today, which exhibits cabinetry made by Gershom that can still be viewed today. If it were not for the Frazee House structure, Aunt Betty's story wouldn't have been possible.

Recommendations

- Establish one program that will appeal to all age groups as a way to let the community know about the Frazee House. See attached Lesson Plan. Where History Happens! The Frazee House.
- Complete an Interpretive Plan and a Long-Range Education Plan as soon as possible. The New Jersey Historical Commission and the New Jersey Cultural Trust provide grants for planning.

Where History Happens!

The Frazee House

Educational Program Plan



Table Of Contents

Plan Overview	6
Frazee House Background Information	7
Program Plan	9
Part I-Historic Highlights	9
Part II-Everyday Life at the Frazee House	11
Core Curriculum Standards	13
Extension Activities	13

Cover illustration

Frazee House, ca. 1880s. In the collection of the Historical Society of Fanwood-Scotch Plains.

The Frazee House –Where History Happens!

Plan Overview

Tells the story of how the Frazee House has changed during the 18th to 21st –century from a Revolutionary War era-farmstead to a historic and environmental urban park viewing it from the creation of the building to the present day.

Themes

- Place the building in a historic time frame as a historical timeline of change. What's old, what's new, what has changed?
- Explore connection between site, building, and landscape.
- Examine the social history and lives of significant related person's.

Audience

- School-age children studying local history and the Revolutionary War (Grades 3, 5, 7)
- May be modified for an adult audience

Duration

- 30-45 minutes depending on audience

Pre-Activity

Children should identify New Jersey, Union County and Fanwood –Scotch Plains on a map.

Post Activity

Students will be provided with a historic photo of the Frazee House. Children may draw themselves in front of the Frazee House and write a story about living in the house in the time period of their choice. (Copy attached)

Contact Information

Fanwood Scotch Plains Rotary Frazee House, Inc.
Box 426
Fanwood, NJ 07023
www.frazeehouse.org

Frazee House Background Information

(Source- National Register of Historic Places Nomination Form)

Setting

- 18th century-the crossroads location of the Frazee House was known as Two Bridges for the spans over two tributaries of the Robinson's Branch of the Rahway River that come together here.
- Located nearly three miles south of the village of Scotch Plains, Two Bridges had its own schoolhouse and farming community along.
- Heavily-traveled north-south Road to Rahway (now Terrill Road) and the east-west Raritan Road.
- Located near the northwest corner of this intersection at the northern edge of the Ash Swamp and at the eastern edge of the Short Hills.

Revolutionary War Era

- Construction of the Frazee House began ca. 1761, when carpenter and joiner Gershom Frazee (1735-1791) purchased 9 acres that included a small house, presumed to be the extant east wing of the Frazee House, from Jacob Winans, a fellow carpenter and joiner of Dutch origin.
- Gershom enlarged the kitchen wing and constructed the larger two-story addition between 1761 and 1766 for himself and his wife, Elizabeth Lee Frazee (ca. 1738-1815), known in local history as "Aunt Betty" Frazee. Gershom and Elizabeth Frazee lived in the house and raised their nephew Gershom Lee, son of Elizabeth's brother Thomas and his first wife.
- Frazee family weathered the Revolutionary War and the Battle of the Short Hills and continued their residence on the property after Gershom Frazee's death in October 1791. Gershom Frazee left a will, but died in debt. His brother-in-law, Thomas Lee, handled the sale of property on the east side of Raritan Road to help pay off the debts.

19th Century

- Widow Elizabeth Frazee continued to live in the house with her nephew until her death in December 1815.
- Nephew Gershom Lee married Sarah Hetfield and continued to live on the family farm. Gershom and Sarah had two sons, Daniel H. Lee and Matthias Frazee Lee, known as Frazee Lee. Gershom Lee died intestate in 1845 and the Essex County Surrogate Court granted the estate to his sons that year.
- Sarah Hetfield Lee lived with her bachelor sons on the farm until her death in 1880. The Lee brothers were primarily farmers. "By close economy and persistent industry, combined with business sagacity, they succeeded in amassing considerable fortunes" through numerous real estate transactions and loans. The brothers died within five weeks of one another in 1888, with Daniel Lee's estate going to his brother.
- According to their inventories, the brothers' combined estate was valued at \$119,990.08 with very little value resting in their physical possessions. Surviving brother Frazee Lee left his residual estate to the Scotch Plains Baptist Church in order to help it pay off the debt incurred through the recent completion of a new church, which is still standing on Park Avenue in Scotch Plains, and to help in "spreading the Gospel." Twenty-seven would-be heirs, including individuals who owed the Lee

- brothers substantial sums of money, contested the will and eventually won in Prerogative Court.
- Some of the contestants were members of the Scotch Plains Baptist Church themselves, and the resulting infighting caused a great deal of strife within the congregation. A quit-claim from the church was filed in 1890 and the church was given a sum of money sufficient only to pay off its debt. In 1893, a Chancery Court ruling ordered the remaining property, including the Frazee House, to be sold in order to divide the profits equally among the 27 remaining "heirs."

20th Century

- As part of the liquidation, the Frazee house was sold at public auction to Albert Ryno in 1893 for \$675.00. His family farmed the land until 1949 when his sons sold the property to Franklyn Tuttle Terry and Ella Louise Terry of South Plainfield.
- The Terrys lived in the Frazee House and operated the Terry Lou Zoo on the property. The Terrys made extensive changes to the property including the addition of barns, a silo, and large animal pens to house "New Jersey's largest privately-owned zoo," according to their promotional materials. Resident animals included lions, tigers, chimpanzees, hippopotamuses, kangaroos, zebras, and giraffes, and were often castoffs from other zoos due to age or deformity. All of these outbuildings have been demolished.
- The Terrys sold the property and zoo to Harold and Deborah Kafka in 1994. The Kafkas operated the establishment as the Scotch Plains Zoo until 1997.
- The property passed through two owners in 1997 and 1998.
- The property was acquired through eminent domain by the Township of Scotch Plains in 1998 and remained in arbitration until 2000. The Township presently owns the property. The Fanwood-Scotch Plains Rotary Frazee House, Inc., a not-for-profit corporation created to restore the Frazee House began a long-term lease on the property in 2006.

Frazee House - Where History Happens!

Educational Program Plan

Part I-Historic Highlights

Procedures

Introduction of presenter

What do you know about the Frazee House?

What would you like to know?

Early History (18/19th-century)

- Union County was first established in 1857 having been part of Essex County
- Occupied by the Lenni Lenape Indians
- Scotch Plains was first settled by Europeans, including many Dutch, English, and Scottish Quakers ca. 1684 because of fertile fields and natural resources. Why were these important?
- Scotch Plains served as a stop on the stage coach line between New York and Philadelphia

Gershom Frazee

- Age of 18 (1753), Gershom was apprenticed for three years to Peter Pain of Elizabeth “to learn his art of trade of a Carpenter and Joyner.” Pain provided one woolen and one linen suit, a beaver hat, a bible, and tools to start Frazee in his profession: “a broad ax, hand saw, square and compass, twaugers, two chisels, a Jack plane, a fore plane, a Smothing [*sic*] plane & plowe [*sic*] and [tongue] planes.” (“Agreement for Apprenticeship,” Cited as being part of the Frazee-Lee Papers in Detwiller, January 1972, 3).
- Ask participants to demonstrate how they would use each tool.
- Gershom purchased 9 acres ca. 1761 that included a small house, which was probably the east wing of the Frazee House.

The Battle of the Short Hills / The Battle of Ash Swamp

- Battle of the Short Hills (also known as the Battle of Ash Swamp) took place during the winter and spring of 1777. Can you name any other NJ battles?
- Colonial and British armies skirmished across present-day Union and Middlesex Counties as General Howe attempted to lure General Washington into confrontation. What is a skirmish?

- No large-scale battles took place here during that time but skirmishes and pillaging affected local residents including Elizabeth and Gershom Frazee. What is pillaging?
- “Aunt Betty” Story. After the Battle of Short Hills on June 26, 1777, Cornwallis and his troops passed by the Frazee house as they headed for Westfield. It was about noontime when the army came up to her residence. "Aunt Betty" was baking bread for the Continentals, who were stubbornly falling back before the enemy. The hungry Cornwallis caught the appetizing odors coming from the large dome shaped bake oven. As the line halted he dismounted, went to the door of her home, and with a courtly air requested, "My lady may it please you to give to Lord Cornwallis the first loaf that comes from your oven of baking bread." On saying this he confidently betook himself to a shade tree in the yard, for the day was unusually hot. When the bread was ready to be taken from the oven, Aunt Betty, with a steaming loaf, unhesitatingly complied with the general's request; but on presenting it to him retorted, "Your lordship will please understand that I give this bread in fear, and not in love." Standing before her in military salute with admiration for her courage, Cornwallis replied, "Not I, nor a man of my command, shall accept a single loaf." As recalled in secondary source materials. (Marion Nicholl Rawson, *Under the Blue Hills* (Plainfield, New Jersey: Interstate Printing Company, 1974), 175-176; Frederick W. Ricord, *History of Union County* (Newark, New Jersey, 1897), 513; Honeyman, *History of Union County...*, 502). What do you think of how Aunt Betty acted? Why do you think the General said what he did?

20th Century

- Frazee house was sold at public auction to Albert Ryno in 1893 for \$675.00 and family farmed the land until 1949.
- 1949- Franklyn Tuttle Terry and Ella Louise Terry buy the property, live in the house and operate the Terry Lou Zoo. Animals included lions, tigers, chimpanzees, hippopotamuses, kangaroos, zebras, and giraffes, and were often castoffs from other zoos due to age or deformity. Do you think this was a good location for a zoo?

Part II - Everyday Life at the Frazee House

Food (Show 18/19th-century cooking tools)

- Breakfast cornmeal mush and corn bread
- Early afternoon main meal stew of meat (venison) and vegetables
- Supper leftovers and bread

Clothing (Presenter may wear or show historic costume)

- Clothing made of linen or wool or combination called linsey-woolsey. Where does wool and linen (flax) come from?
- Girls and women-Chemise, petticoat, apron, short gown, pockets, cap
- Boys and men-Long shirt, breeches that went to knee, long stockings, waistcoat

Chores (Show washboard, candle mold, or other household tool)

- Girls- Cooking, sewing, washing
- Boys- Cropping wood, farming, hunting
- Washboard- How would you heat the water? Wash, rinse, hang on line to dry
- Candle mold- Candles made of tallow (animal fat), camphor, beeswax

Leisure (Show reproduction toys)

- Toys were made from everyday items
- Dolls made from rags and cornhusks (Have them guess what cornhusk toy is made of)
- Playing marbles and jacks (Same games different materials)
- Dancing, hoop rolling
- End with letting the audience touch the toys

Wrap-up

- Would you have wanted to grow-up in the Frazee house? Why?
- I invite you to come visit the Frazee House site and walk on a place where history happened!

Materials

- Photos (8 ½ by 11) of
Frazee House Past and Present
Generals Washington and Howe
Terry Lou Zoo
- Historic costume for presenter to wear or display
- Washboard, candle mold, or other household tool (18/19th-century antique or reproduction)
- Toys (18/19th-century reproduction)
- Poster or souvenir from the Terry Lou Zoo

Core Curriculum Standards

- Standard 6.1 U.S. History: America in the World (Grades P-12)
- All students will acquire the knowledge and skills to think analytically about how past and present interactions of people, cultures, and the environment shape the American heritage. Such knowledge and skills enable students to make informed decisions that reflect fundamental rights and core democratic values as productive citizens in local, national, and global communities.
- Standard 6.2 World History/Global Studies (Grades 5-12)
- All students will acquire the knowledge and skills to think analytically and systematically about how past interactions of people, cultures, and the environment affect issues across time and cultures. Such knowledge and skills enable students to make informed decisions as socially and ethically responsible world citizens in the 21st century.
- Standard 6.3 Active Citizenship in the 21st Century (Grades P-12)
- All students will acquire the skills needed to be active, informed citizens who value diversity and promote cultural understanding by working collaboratively to address challenges that are inherent in living in an interconnected world.

Extension Activities

Use primary source materials such as the-

-Frazee-Lee Papers, Plainfield Historical Society Collection, Rutgers University Special Collections to learn more about the carpentry and cabinetry work of Gershom Frazee.

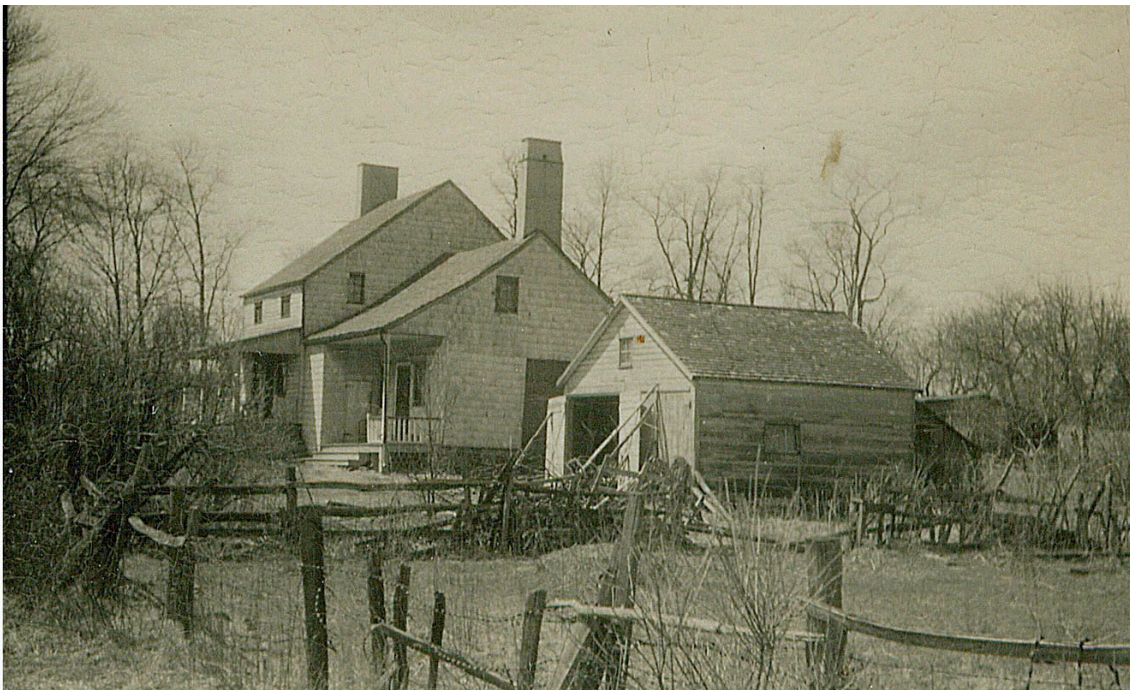
-The Battles and Skirmishes of the Revolutionary War in New Jersey Map (mapmaker.rutgers.edu/MAPS) to compare/contrast the towns and transportation systems on with a current map. (Copy attached)

Use secondary source materials such as the-

-Story of Aunt Betty Frazee comic by Frank Thorne (available at www.frazeehouse.org) as an inspiration to create a story, comic or artwork about the Revolutionary War, the Frazee House or the Terry Lou Zoo. (Copy attached)

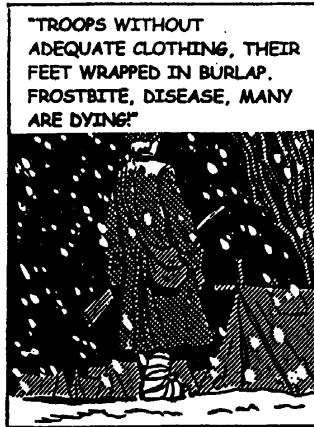
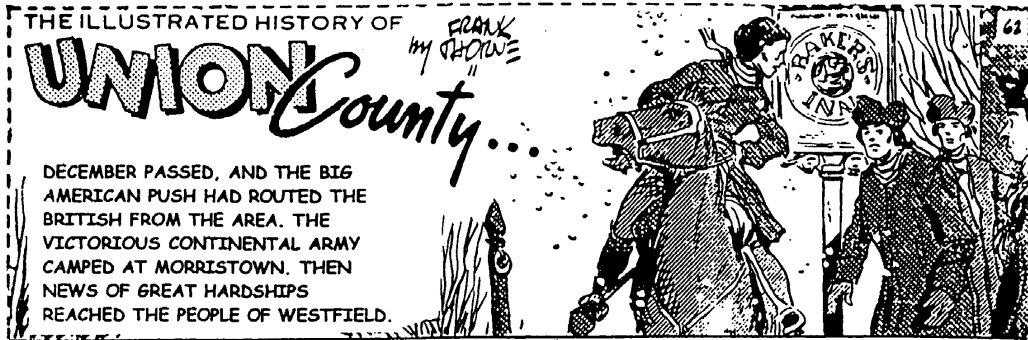


Photograph 1. Frazee House Circa 1940.



Photograph 2. Frazee House Circa 1940 showing the house barn structure to the east.

The story of Aunt Betty Frazee excerpted from The Illustrated History of Union County...



FINALLY SPRING ARRIVED, AND IN THE WELCOME WARMTH OF MAY GENERAL WASHINGTON MOVED HIS ARMY SOUTH TO MIDDLEBROOK. LATER IN JUNE OF 1777 A CONFERENCE IN PERTH AMBOY SETS THE SCENE FOR ONE OF THE MOST CHERISHED INCIDENTS OF THAT PERIOD. GENERAL HOWE AND GENERAL CORNWALLIS WERE AT THE BRITISH HEADQUARTERS DEVISING A PLAN TO DRAW WASHINGTON'S TROOPS DOWN FROM HIS MIDDLEBROOK MOUNTAIN STRONGHOLD SO THEY COULD ONCE AND FOR ALL CRUSH THE REBEL ARMY. THEIR PLAN WAS TO FOOL WASHINGTON INTO THINKING THE REDCOATS WERE ABOUT TO MOVE ON PHILADELPHIA. HEARING THE RUMOR, GENERAL WASHINGTON MOVED HIS FORCES TO NEW MARKET. THE BRITISH IMMEDIATELY STRUCK OUT FOR NEW MARKET 14,000 STRONG!

THE ILLUSTRATED HISTORY OF
UNION County...

AT THE BEND OF RARITAN ROAD IN SCOTCH PLAINS, WHERE TERRILL ROAD BEGINS, STILL STANDS THE HOME OF AUNT BETTY FRAZEE. ON THAT SULTRY AFTERNOON ON JUNE 26, 1777, AUNT BETTY WAS AT HOME BAKING BREAD FOR THE CONTINENTAL ARMY.



LITTLE DID SHE KNOW THAT THE BRITISH ARMY HAD LEFT AMBOY IN THE MORNING, HEADED FOR NEW MARKET.



THE ENEMY FORCE HAD BEEN TURNED BACK AT NEW MARKET, AND WERE IN TACTICAL RETREAT.



LATER, THE SOUNDS OF CANNON FIRE ROCKED THE COUNTRYSIDE.



AUNT BETTY'S LOAVES WERE BROWNING NICELY. A DELICIOUS ODOR WAFTED FROM THE STEAMING OVEN. THEN THE SOUND OF HOOFEATS CAME FROM THE DIRT ROAD NEARBY. "THE SOLDIERS MUST BE COMING FOR THE BREAD," SHE MUSED. THE CONTINENTALS USUALLY CAME AROUND NIGHTFALL, SO SHE WENT TO THE SIDE OF THE HOUSE TO BETTER GREET THE APPROACHING HORSEMEN. "REDCOATS," SHE GASPED, BUT THEN SHE NOTICED SOMETHING DIFFERENT ABOUT THEM.

THE ILLUSTRATED HISTORY OF

UNION County...

by FRANK HOWE

AUNT BETTY FRAZEE STOOD MOTIONLESS AS THE PAIR OF REDCOATS DISMOUNTED AND APPROACHED. AS THEY DREW NEAR SHE REALIZED THEY WERE OFFICERS OF HIGH RANK!



"MADAME," SPOKE ONE, "CORNWALLIS IS THE NAME. MY FRIEND WILLIAM HOWE AND I HAVE A REQUEST."

"WE CAUGHT THE ODOR OF YOUR BAKING BREAD AND ARE TEMPTED TO ASK FOR SOME LOAVES; A RARE DELICACY FOR OUR MEN."



TREMBLING, SHE OFFERED A LOAF AND SAID "I GIVE YOU THIS IN FEAR, NOT IN LOVE."



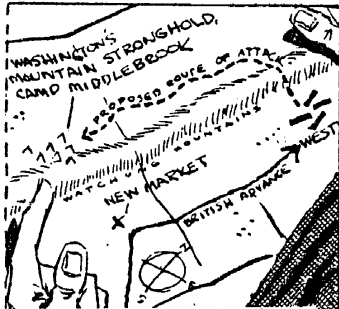
GENERAL CORNWALLIS STUDIOUSLY WITHDREW HIS HAND. "THEN, MADAM, NEITHER I NOR A SOLDIER OF MINE WILL PARTAKE OF IT." THE GENERALS THEN MOUNTED AND RODE OFF. LATER AUNT BETTY WATCHED IN AWE AS THE GREAT COLUMNS OF BRITISH TROOPS FILED BY IN THE SCORCHING HEAT, PLODDING ALONG RARITAN ROAD IN THE DIRECTION OF WESTFIELD.

⑦

THE ILLUSTRATED HISTORY OF

UNION *County...*

THE BRITISH COLUMN PAUSED IN THE VACATED VILLAGE OF WESTFIELD. THE REDCOATS' NEW STRATEGY WAS TO SLIP THROUGH ONE OF THE MOUNTAIN PASSES AND ATTACK NEW MARKET FROM HIGH GROUND.



THE MOVE MUST BE SWIFT, FOR WASHINGTON WOULD SURELY RETURN TO HIS MOUNTAIN STRONGHOLD.

SCOUTS WERE SENT TO RECONNOITER AMERICAN DEFENSES AT THE MOUNTAIN PASSES TO THE WEST.



AT EVERY PASS THE SCOUTS SAW LARGE GROUPS OF WELL ARMED AMERICANS WAITING FOR JUST SUCH AN ADVANCE.



THE SCOUTS REPORTED BACK TO CORNWALLIS. HE DID NOT GLADLY RECEIVE THE NEWS. THE BRITISH GENERAL ORDERED CAMP TO BE MADE FOR THE NIGHT. THE NEXT AFTERNOON HIS ARMY QUIT WESTFIELD, MARCHED THROUGH RAHWAY, AND FERRIED BACK TO STATEN ISLAND. HAD THE ENEMY FORCE BEEN ABLE TO PENETRATE THE WATCHUNGS AND ATTACKED THE CONTINENTAL ARMY FROM THE REAR THE ENTIRE COURSE OF THE WAR FOR INDEPENDENCE MIGHT HAVE CHANGED!

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

Introduction

The Frazee House is a significant historic property located on the north side of Raritan Road in the Township of Scotch Plains, NJ. The house is important for its place in local Revolutionary War history and for its 18th Century timber construction. The house sits on a one acre lot; however, it is surrounded by five acres of Township open space. While excellent historical documentation for the House exists, little is known about the grounds. A few historical photographs show plantings in a front “yard” and some of the surrounding landscape. (See photograph 1) It is critical that in developing a comprehensive vision for adaptive use and interpretation the entire six acres be conceived of as a whole. In that way, proposed solutions for the site and house will have practical, logical, aesthetic and contextual relationships to one another. The landscape is a valuable asset in the opportunity for preservation of the Frazee House as it presents the prospect of placing the House in a distinct cultural and historic setting.

Existing Conditions

The total six acres is a fenced, self-contained diamond shaped site bordered on all sides by three roads; Raritan Road on the southwest and southeast, Clover Lane on the northwest and Terrill Road to the northeast. The Robinson Branch Tributary, the Rahway River branch 22 divides the site beginning in the middle of the northwest edge and continues east under the bridge by the intersection of Raritan and Terrill Roads. The north side of the stream is a bucolic setting with mature trees and lawn. The ground gently slopes upwards from the stream toward Terrill Road. The vehicular entrance is a gravel drive off Raritan Road to the east side of the Frazee House and between an old well head. The well head poses a danger as it is in disrepair with an opening at the base large enough for a child to fall through. (See photographs 2A & B)

The driveway extends past the house parallel to the stream where it widens to become a parking area. The west side of the property rises an average of 20 feet above the parking area. The west corner is the highest point on the property and provides an expansive view of the grounds. The top half of the western side has a variety of mature trees; the lower half is a field with few trees, a less steep slope with some native grasses and wildflowers. The northwest woodland edge has the most concentration of mature trees and understory planting on the site, although not all the plants are necessarily desirable. Throughout the perimeter of the property a dense planting of trees, shrubs and vines inhibits views into the site. Much of the community is not aware of the open space. It would be beneficial to remove some of the perimeter planting to open up views on the site.

Previously, there was a semi-public zoo on the site. While the zoo has been closed since 1997 and the township has removed almost all the exhibits and walkways, construction remnants such as concrete slabs, asphalt, sandbags, chain link fence, wood fence posts, and various sundry items remain. In particular, due south of the house is a series of concrete slabs and extant zoo features. Other areas of the property show evidence of abandoned zoo exhibits by distinctly noticeable level areas cut into the slopes. (See photographs 3A & B.)

Directly east of the Frazee house and in close proximity to Raritan Road is a man-made pond created in the early 1950's, which was part of the zoo. Soil excavated from the pond area was placed around the perimeter to create an elevated pathway for pony rides. The pond seems to rely on a natural clay bottom to retain water; visually there is no evidence of poured concrete or a liner. (A shallow depression, water collects in the spring and during storms, but is usually gone during the warm summer months). Grasses thrive on the pond bottom and hummocks. (See photograph 4.)

The police department has created a canine training area, which consists of a numbered series of white painted wood architectural structures in the northern corner of the site. (See photograph 5.)

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

Site Opportunities

Landscape recommendations for the grounds immediately surrounding the Frazee House are informed by historic documentation, the understanding of other sites of the same period, and the desire to create an appealing attraction that engages people with the site while being respectful to the history. The broader landscape recommendations for the contiguous Township land are informed by the natural opportunities the site offers and the desires generated in the December 3, 2011 Vision Workshop.

There are four primary considerations that shape the landscape recommendations: attention to historical detail, sensitivity to the natural environment, public safety and aesthetics. Further development of the concepts proposed immediately around the house would incorporate vernacular materials, design and building techniques close to historic treatments. In all areas, the suggestions proposed are mindful of the natural environment advocating sensitive stewardship practices. Safety of the public through the landscape is considered a fundamental requirement, and finally, all recommendations should be attractively designed so the new site amenities are pleasing.

Many of the concepts generated during the Vision Workshop have been incorporated in to the Vision Plan. In addition, the following points were established:

- Trees need to be evaluated by a certified arborist. Dead, diseased limbs and unsafe trees should be removed.
- Although the old zoo left an imprint in the community; workshop participants did not feel there was an opportunity to capitalize on that history or a need to pay homage to it. The seasonal pond should be filled and the surrounding area re-graded to allow for proper drainage depressions in the land from zoo pens need to be regraded.
- The canine training structures should be relocated to another site.

House

A quaint colonial garden appropriate to the House should be created. As seen in the historical photograph, this would be an intimate garden reflecting a personal touch, with flowers grown for their ornamental value, and their utilitarian usefulness. Residential in scale and planted with plants historically available during the 18th century, this garden would be an attractive feature complimenting the house, improving the appeal from Raritan Road and for a visitor walking the grounds. (See photograph 1.)

Basic services such as water and a restroom facility need to be planned for. The restroom can be a simple outbuilding green structure, perhaps a composting odorless toilet, or a building utilizing rain/gray water. The restroom should be designed to be architecturally compatible with the Frazee House, but clearly identified as a contemporary building and not a historic reproduction. As there are no records of a privy it would be inappropriate and contrary to the *The Secretary of the Interior's Standards for the Treatment of Historic Properties* to attempt a re-creation. The actual location of the restroom facility will need to be studied, but the area near the House seems most appropriate.

Pedestrian and Vehicular Circulation

A key feature of the vision plan is the creation of paved looped pedestrian and bicycle paths through the site. From all sides of the property, there are many attractive views to emphasize and make the most of. A simple asphalt path will provide an accessible surface and help organize the experience of the visitors by guiding them to key points on the site. The extent of the paths will

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

be limited, in order to keep them from overwhelming the character of the landscape experience. If a cost effective bridge can be obtained or engineered that can withstand the periodic flooding of the stream, it would be strategically located to span the stream and form a link between the north and south sides of the site. However, if a bridge is not feasible, there are two alternatives. There is covered bridge off site on Clover Lane, if access can be gained from the west side of the site to Clover Lane, visitors may use the existing bridge to cross the stream and re-enter the site at the north side. If that is not possible, visitors on the south side may follow the path along the stream towards Raritan Road, progress on to the sidewalk, cross the stream and re-enter the site at the northeast side. In both schemes, it is necessary to temporarily leave the site.

It would be beneficial to have several pedestrian entry points to the site. There exists a sidewalk on the east side of Terrill Road that connects with a crosswalk to the north side of Clover Lane. If another cross walk was added across Clover Lane there would be direct pedestrian access from the community to the north corner of the site. There exists an opening in the perimeter fence at that location, no doubt created for access to the canine training area. It is recommended another opening be created at the corner of Terrill Road and Raritan Road.

The existing parking area is far too large, and sprawling. A new entry and parking area will be designed that will institute best management practices for storm water management while efficiently accommodating the programmed number of required spaces. (See photograph 6.)

Landscape

The site offers many opportunities to develop varied and distinct landscape experiences. Proposed features must be sensitive to the setting and consequently, workshop participants agreed there should be no active recreational facilities such as athletic fields permitted. However, passive recreation such as a par exercise course, picnicking, perhaps even weddings should be considered desirable uses. This Vision Plan suggests, in a very schematic level, possible directions for the development of the site. To facilitate the construction of the Vision Plan recommendations, the projects may be phased as money becomes available. Phases should be prioritized according to the needs of the House and site and allow for a logical and cost-effective construction sequence, while establishing realistic fundraising goals. As features are implemented, visitation increases encouraging more community involvement in the project which commonly fosters improved financial support. This vision plan is a vital first step in the development of the site.

Features that should be considered for further development and interpretation include:

- Orchard
- Community Gardens
- Meadow
- Woodland Edge
- Stream
- Picturesque Landscape

These recommendations include re-vegetation, where necessary, enhancement of existing vegetation and selective eradication of invasive species. The areas will be developed and managed to increase plant diversity, improve wildlife habitat, control invasive species, and highlight the unique site features and history.

Extending beyond the immediate area around the House, from the southwest side, near the property line, there is an attractively framed view between mature trees of the Frazee House. Even in the neglected state of the grounds, there is a strong relationship between the house and the land from this vantage point. Fortunately, the golf course across Raritan Road

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

provides an open expanse beyond the Frazee House. There is a timeless quality in this view, with the way the house is nestled in the slope; the open space beyond and the mature trees. (See photograph 7.)

Orchard and Community Gardens

The theme of agriculture should be introduced to the site by the implementation of a new fruit orchard and community gardens. It would not be unusual for this type of homestead to have an orchard. An orchard is a rewarding landscape feature in many ways. Foremost, it produces a crop, but in addition, the grid of trees within the landscape produces a pleasing sense of order, the flowering of the trees creates a spectacular effect in the spring, and it creates a transition area from the immediate zone around the Frazee House to the landscape beyond. (See photograph 8)

The creation of Community Gardens on site would provide the sense of a working farm, as a section of land would be under intense cultivation. A community garden would afford the ideal growing conditions to local residences, (particularly those whose properties may be in shade), to grow plants such as vegetables and flowers.

Proven benefits to Community Gardens include:

- Improvement to the quality of life for people in the garden
- Provides a catalyst for neighborhood and community development
- Stimulates Social Interaction
- Encourages Self-Reliance
- Produces Nutritious Food
- Reduces Family Food Budgets
- Conserves Resources
- Creates opportunity for recreation, exercise, therapy, and education
- Preserves Green Space
- Creates income opportunities and economic development
- Provides opportunities for intergenerational and cross-cultural connections

It is likely with the introduction of community gardens on the Frazee House site, there would be renewed interest and increased enthusiasm for the restoration and preservation of the house and land.

Meadow

Further down the slope towards the stream, is an open field which may be developed into a managed meadow. (See photographs 9 and 10). Meadows are fields vegetated with grasses and forbs(broad-leafed plants),and wild flowers and sometimes a few trees. Wildflower meadows offer a diverse, and typically exceptionally attractive, habitat for the pleasure of visitors. Fostering open habitats such as wildflower meadows for the establishment of native or naturalized grasses, wildflowers and flowering plants offers several advantages:

- Plant diversity attracts insects and other invertebrates (including butterflies, bees, spiders and millipedes), birds and mammals
- Flowering species add a changing palate of color to the environment throughout the seasons
- Active involvement of the local community in managing the site encourages ownership values to be fostered – activities may range from mowing to the collection of seeds for use at a new location or for sale.

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

- Opportunities for education and recreation abound (ranging from nature studies to art lessons).
- Even small plots of wildflower planting can change the feel of a setting, so that the creation of a wildflower meadow as part of an open space can bring a little piece of countryside into the town.

Woodland Edge

The edge between a woodland and meadow is a very dynamic interface with some plants that thrive only in this condition. Proportions of meadows and forests change with environmental conditions and disturbance history. The woodland and edge may be interpreted to introduce the themes of native plants, forest succession and the vigorous force of nature.

As previously noted, the western edge is the most concentrated woody planting on the site. This planting buffers the stream and has the potential to be developed as native woodland. A shady retreat, this feature will emphasize native mid- Atlantic woodland plants with a particular focus on plants of New Jersey. The Woodland Edge would be especially attractive during the spring and fall seasons. (See photograph 10.)

Stream

Rahway River Branch 22- Robinson's Branch

The stream is a lovely site amenity with a pleasant flow and attractive rock formations. (See photograph 11) Unfortunately, it divides the site almost in half making pedestrian access to the whole site problematic. The vegetated stream banks have mature trees and grass growing to the water's edge. This planting contributes to the stabilization of the stream edge. However, more trees along the stream would be beneficial, as it is now generally accepted that for the health of the stream streamside forests represent the best management practice for protecting aquatic ecosystems from outside pollution by filtering out nutrients, sediments and toxic contaminants before they get to the stream. In addition, the cooler temperatures and quality of light created by the shade of tree canopies are positive factors in increasing the reproductive potential of fish communities. The stream can swell beyond its banks during heavy rains; the parking area and manmade pond are within the 100- year flood plain, and are thus periodically submerged. With the particularly strong storms that have occurred in the last two years, the stream has even overflowed on to Raritan Road.

Interestingly; a significant deposit of fine brown sand on the south bank was discovered. We suspect this sand was used as a component in the mortar for the stone foundation of the House providing an attractive brown tint. Future analysis of the mortar is necessary to substantiate this supposition.

There are many educational programs for all age groups, relating to stream ecology that may be included in the local schools curriculum. Stream monitoring and outdoor lab work can occur on site.

Picturesque Landscape

Evolved predominantly from mid-18th century British landscape design theory and the paintings of 17th century landscape painter Claude Lorrain, the picturesque style sought to evoke the "natural" landscape appearance of classical terrain. In America, rolling pastoral designs have often been employed in parkland. The north side of the site evokes a naturalistic designed landscape with mature trees, gently contoured ground and mowed grass. With editing of the trees

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

and manipulation of the grades, this existing beautiful landscape effect can be even more aesthetically pleasing and will graciously accommodate the proposed path. (See photograph 12)

At the Frazee House & Site, there are many opportunities to introduce the visitor to experiences that are respectful to the cultural heritage and natural landscape of the site. Within the context of the site, new appropriately considered features, such as Community Gardens and an Orchard, can be skillfully integrated into a master plan. Guided tours, hiking and biking trails and carefully placed interpretive signs could highlight themes and features. It is recommended that an interpretive master plan be completed for the House and site. See Visionary Plan

Photographs



Photograph 1. Historic photograph (date unknown) showing front “yard” with cultivated plants and out building.

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**



Photograph 2 A & B. Entry to the Frazee site; note well on right side, well needs to be repaired: opening sealed.



Photograph 3 A & B. Remnant debris from the zoo to be removed.



Photograph 4. Shallow seasonal pond, remnant from the zoo to be regraded to drain properly and not retain water.

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**



Photograph 5. Canine Training area with built structures to be relocated off site



Photograph 6. Existing parking area to be refined.

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**



Photograph 7. Framed view of the house from the southwest. Note timeless quality of the house in the landscape setting, with the open space beyond.



Photograph 8. Area for proposed orchard in the foreground with proposed meadow beyond.

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**



Photograph 9. Area for proposed meadow with view towards House.



Photograph 10. View from proposed meadow area towards dense woodland edge.

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**



Photograph 11. Rahway Steam Branch, note trees on stream bank, lack of erosion.



Photograph 12. Picturesque landscape with rolling lawn and mature trees.



RODNEY ROBINSON
LANDSCAPE ARCHITECTS, Inc.

30 Hill Road, Bancroft Mills
Wilmington, DE 19806-2034
tel: 302.888.1544 fax: 302.888.1546

Project Name

FRAZEE HOUSE

1451 Raritan Rd
Scotch Plains, NJ 07076

Sheet Title

EXISTING SITE

Revision Date

Drawn: AS/AV
Checked: RDR
Scale: As Noted
Date: DEC 22, 2011

Sheet No.

LI

SURVEY PREPARED BY EKA ASSOCIATES, PA
DECEMBER 3, 2011

SECTION VIII - VISION PLAN

Introduction

The Vision Plan for the Frazee House and Site takes into consideration the values identified during the Brainstorming Sessions including the landscape, educational, and marketing needs identified by the project team. The result is a set of concept drawings that focus on the visitor's experience and addresses vehicular circulation, parking, pedestrian circulation, accessibility, and a new bathroom facility.

The Vision Plan looks at the site as a whole.

The following is a description of the proposed site improvements for the Frazee House and Site:

Signage and Welcome: A new attractive sign welcoming the visitors to the Frazee House and Site should be placed at the drive, directing visitors onto the site. Clear and simple directional signage should be installed on Terrill Road and Raritan Road to alert the public of the sites existence and to help direct potential visitors to the site. County or State tourism signs should be investigated.

Vehicular Circulation and Parking: Circulation throughout the site is a key component to a successful visitor experience. Currently there are no paths through the site and parking is located on a sprawled mix of black top and gravel. New pedestrian paths in a mix of surfaces, including black top (barrier free access), mulch and grass. A new entrance drive properly defined for safe arrival and departure. New defined permeable surface parking area for approximately 15 cars.

Immediate Site Improvements: Site clearing and clean up is an important priority that must be implemented as soon as possible to insure public safety. The public has an overwhelming negative perception of the site because of its overgrown and unkempt appearance. Clearing the site of dead trees, overgrown foliage, removing the broken perimeter fence and opening it up to views from the two roads will immediately result in a more inviting appearance and atmosphere on the site. Once the clean up has been completed, the site should be maintained on a regular basis to help preserve its attractive and inviting appearance.

Landscaping: The proposed landscaping includes re-establishing the traditional meadow and woodland, which reflects the natural historic landscape. A new community garden is proposed to help bolster public interaction on the site. Landscaping adjacent to the house would be more formal with colonial period planting to create a more attractive view of the house from the road.

Lighting: Minimal lighting will be introduced throughout the site for both safety and aesthetic purposes. Two ground floodlights will light the south and east facades of the house. Two lights will illuminate the welcome sign and driveway entrance. Some low level solar powered lighting may be installed at the parking lot. Power for temporary event lighting and other event needs would be considered at the event tent area with the installation of a removable electric service panel.

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

Entrances and Circulation: Circulation throughout the site is a key component to a successful visitor experience. To help encourage pedestrian access to the site, three entry points will be made available. Access already exists at the corner of Clover Lane and Terrill Road onto the northeast portion of the site. Two new access points are proposed at the southeast corner of the site. The first at the corner of Terrill Road and Raritan Road, leading onto the northeast portion of the site. The second entry point is located just west of the Rahway River Branch off of Raritan Road. This would provide pedestrians with safe access to both sides of the stream without the immediate connection of a floating bridge. This will also separate pedestrian access from vehicular access. The pedestrian entrances will be inter-connected with walkways. An asphalt pedestrian path will be installed along the perimeter of the site to allow for passive recreation such as walking, jogging and biking. Benches can be installed at specific locations along the path, which will allow the visitor to experience specific vantage points through out the site. A “flotilla style” bridge in the center of the site is proposed to connect the north and south sides of the property, which are bisected by the Rahway Branch River.

Accessibility: Handicap parking will be provided in the new visitor parking area. This visitor parking will then be connected with asphalt paths leading to various parts of the site including two entrances to the house. An accessible ramp will be attached to the west end side of the house entering into Room #102 and the east wing of the house will be accessed from Room 103 or the north elevation. Only the first floor of the house will be barrier free accessible.

New Restroom “Garden Shed”: A new restroom is proposed on the west side of the house. The design will replicate the ‘Garden Shed’ out building (as seen in the historic photo in Photograph 1 in Section VII) and will be adjacent to the house and new barrier free entrance. The restrooms will be placed in the same approximate location as the ‘Garden Shed’ that can be viewed in the historic photographs. The restroom facilities will be eco- friendly requiring minimal maintenance. Two unisex stalls are proposed which are approximately 12ft by 16ft.

Multi-Purpose “Barn”: The addition of a sheltered area would be designed to reflect the barn that once stood east of the house (as seen in the historic photo in Photograph 2 in Section VI) and the new driveway. This multi-purpose ‘barn’ can be used to display interpretive panels about the history of the site. It can also serve as an outdoor learning center for school groups, workshop, lectures, or a picnic area for visitors during inclement weather. The approximate footprint is 24ft by 16ft.

Concept Master Plan: Developed by Rodney Robinson Landscape Architects, the concept master plan for the Frazee House and Site found on the following page incorporates each of the proposed site improvements presented as an integrated whole. It is included for diagrammatic purposes only and should not be used for construction.



LEGEND

LAWN

MEADOW

TREE CANOPY

RODNEY ROBINSON
LANDSCAPE ARCHITECTS, Inc.

30 Hill Road, Bancroft Mills
Wilmington, DE 19806-2034
tel: 302.888.1544 fax: 302.888.1546

Project Name
FRAZEE HOUSE

1451 Raritan Rd
Scotch Plains, NJ 07076

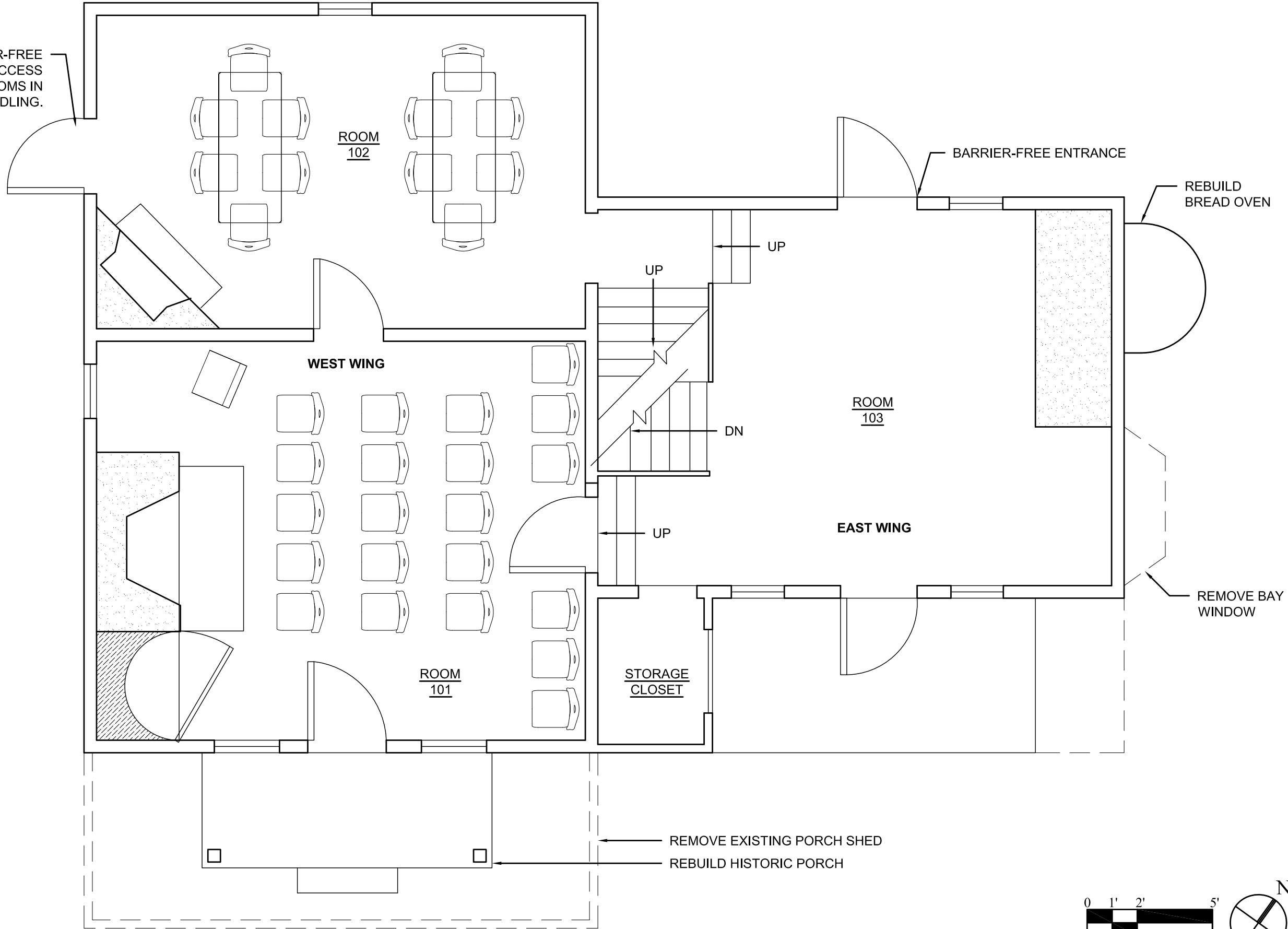
Sheet Title
VISION SITE PLAN

Revision	Date
	APR 17, 2012

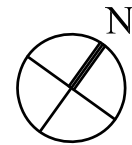
Drawn: AS/AV
Checked: RDR
Scale: As Noted
Date: DEC 22, 2011

Sheet No.
L2

NEW BARRIER-FREE
ENTRANCE. ACCESS
TO RESTROOMS IN
ADJACENT BUIDLING.



0 1' 2' 5'
SCALE: 1/4"=1'-0"



Historic
Building Architects, llc

312 West State St. Trenton, NJ 08618 TEL 609 393 3999 FAX 609 393 4333
Certificate of Authorization # AC 245 Expires 01/31/2014

Date:
04/19/2012

Drawn by:
SJ

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

Feasibility Study and Vision Plan For
The Frazee House and Site
1451 Raritan Rd
Scotch Plains, NJ 07076

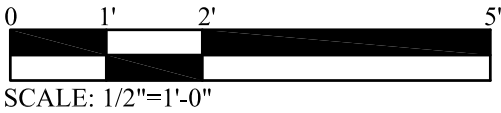
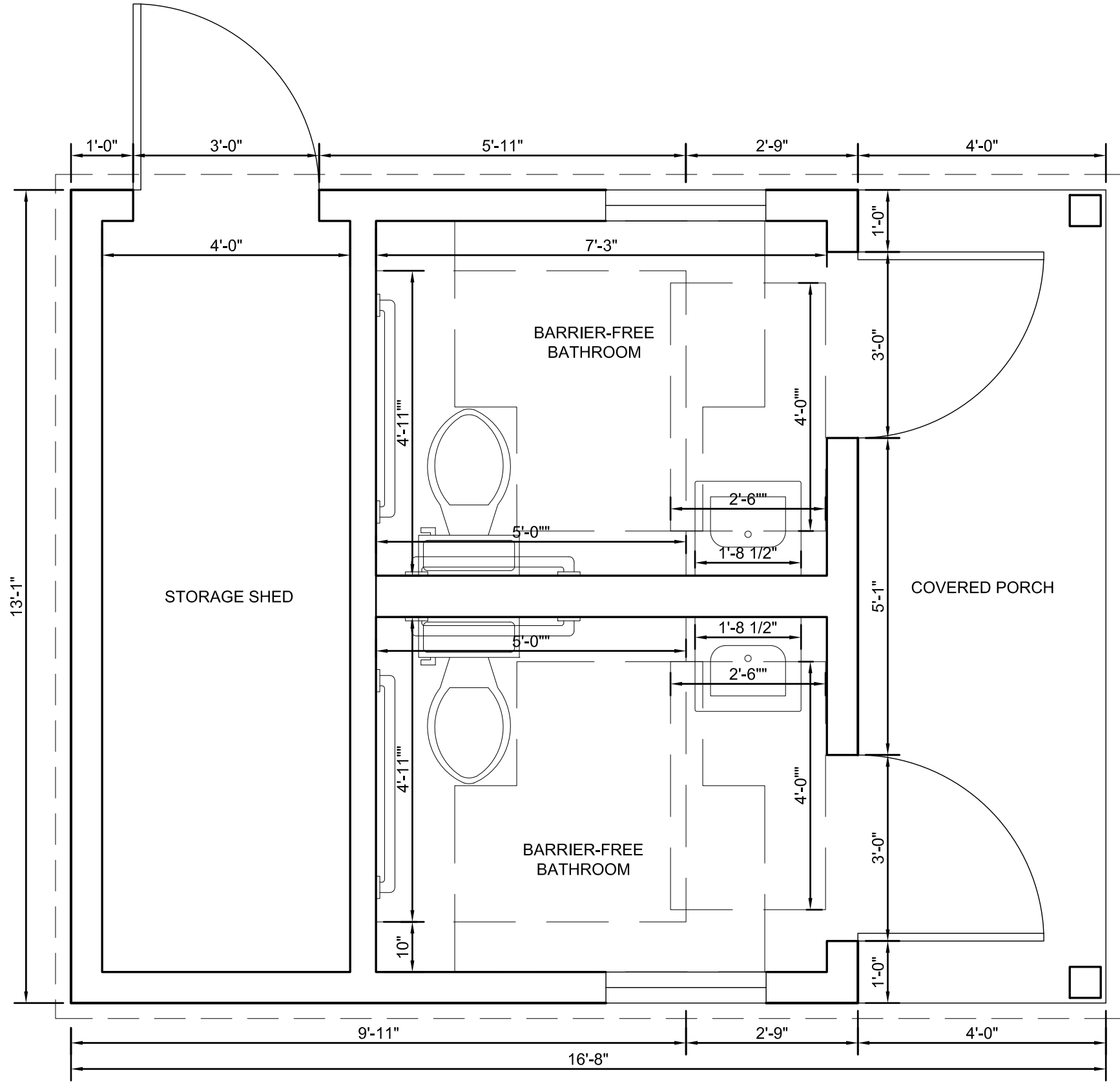
First Floor Plan

A 8.01

Revisions & Submissions

Date

ANNABELLE RADCLIFFE-TRENNER R.A. NJ# AI 13776



Historic
Building Architects, llc

312 West State St. Trenton, NJ 08618 TEL 609 393 3999 FAX 609 393 4333
Certificate of Authorization # AC 245 Expires 01/31/2014

Feasibility Study and Vision Plan for
The Frazee House
1451 Raritan Road
Scotch Plains, NJ 07076

Revisions & Submissions	Date

Date:
04/24/2012

Drawn by:
MS

Scale:
1/2" = 1'-0"

Concept Bathroom Layout

A 8.02

Feasibility Study and Vision Plan For The Frazee House and Site, Scotch Plains, NJ

Summary of Recommended Work

The restoration of the Frazee House and Site can be overwhelming due to existing size of the property and restoration needs and should be implemented in a realistic and financially manageable way in order for the restoration of the entire property to be successful; therefore three distinct phases have been developed for the restoration of the Frazee House and Site. The phases can be broken up into sub phases to accommodate available budgets.

This section is for planning purposes and should not be used to execute any construction work on the house and site. The purpose is to provide Fanwood-Scotch Plains Rotary Frazee House, Inc. administration with a set of prioritized recommendations for which an estimated construction budget can be developed.

Generalized Descriptions of Phased Work

Phase One: Welcoming the Public Back to the Property

The First Phase will focus on bringing the public back to the site. The success of the restoration of the house and site is contingent upon continued public interest and support. Phase One implements those items in the concept site plan that will result in immediate public use. In addition, it is hoped that the house can be structurally stabilized and the front façade restored to proper public perception of the site. At the end of Phase One, the site will be much more welcoming and available for various uses including gardening, educational programs, farmer's market and passive recreation. Phase one is separated into two stages, "A" & "B", to break this larger task into manageable and achievable parts; part "A" focuses on the larger site and landscape elements, while part "B" focuses on the property immediately adjacent to the Frazee House to correspond with the initial exterior restoration efforts.

Phase Two: Providing More Public Amenities

This phase will include completing the exterior restoration of the house and building the new restrooms. The landscaping for the south side of the site will be completed. At the end of Phase Two, the site will be ready to host large public activities such as concerts and weddings.

Phase Three: "Welcoming the Public Back to the Frazee House"

The Third Phase will address the interior restoration of the house. A new 'multi-purpose 'barn' will be installed to provide a location where outdoor educational classes, workshops, markets, etc. can be accommodated. The landscaping on the north side of the site will be completed and a bridge connecting the north and south sides of the property across the stream will be installed. At the end of Phase Three the site and house restoration will be complete and the house will be available to be used for appropriate uses such as lectures/ meeting rooms, educational programs, exhibit space, and museum with new barrier free access to the first floor.

Phase One-A

1. Install new attractive signs
2. Reconfigure the drive entrance and install 15 new public parking spaces.
3. Clear and clean up the entire site including the removal of dead trees and pruning.
4. Remove the fencing along the Terrill Road perimeter of the site.

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

5. Provide mown paths throughout the south side of the site.
6. Install the new community garden with new waterline for irrigation.
7. Install new directional signage on Terrill Road and Raritan Road directing pedestrian and vehicular visitors to the site.
8. Install the infrastructure for the utilities needed for the new restrooms and site lighting.

Phase One-B

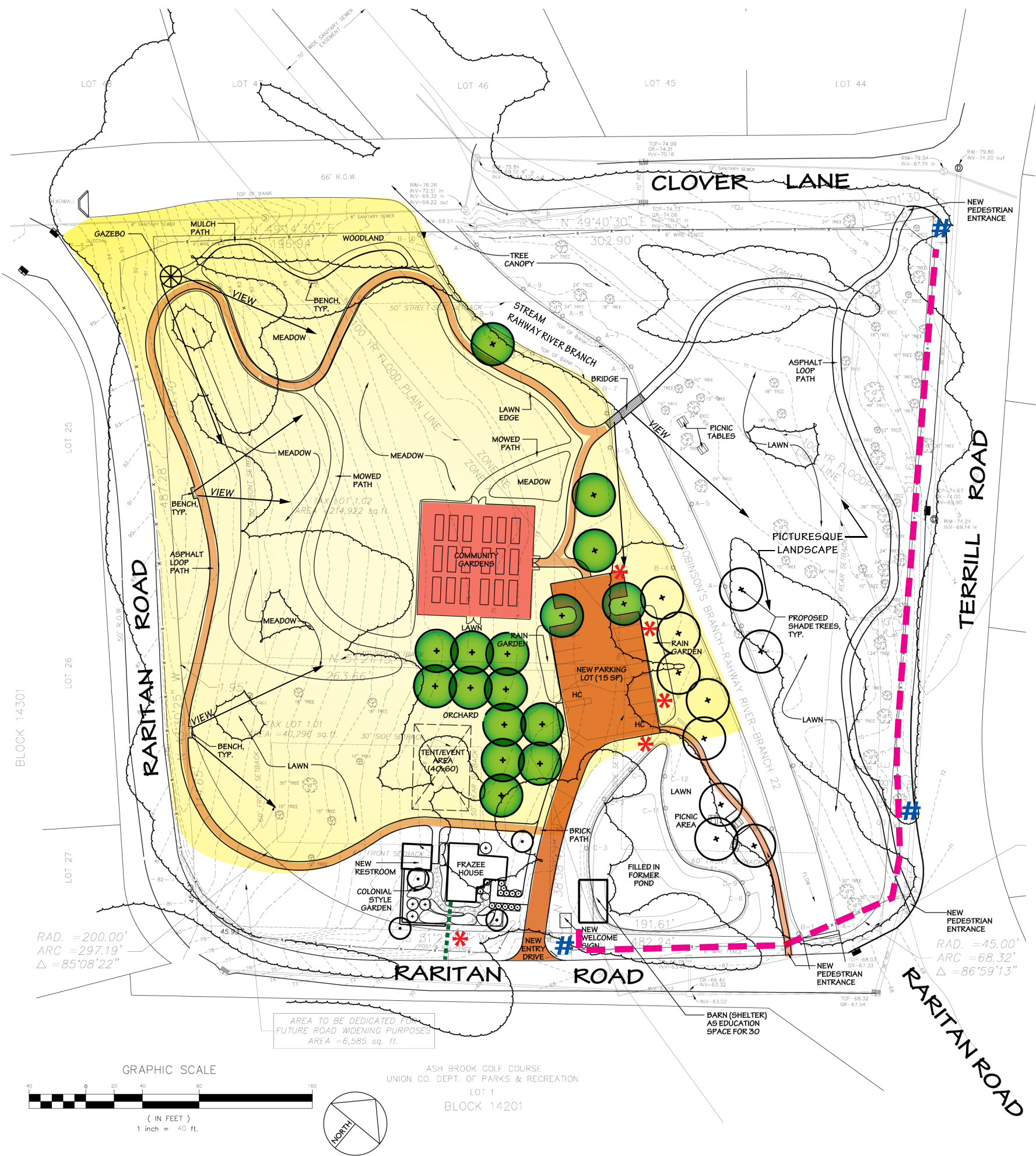
1. Create the new pedestrian entrances to allow access over the bridge on Raritan Road.
2. Install new asphalt or similar material barrier free path throughout the south side of the site atop existing mown paths.
3. Re-landscape the front of the house to look more inviting.
4. Phase One Exterior Restoration of the house- Structurally stabilize the foundation walls and timbers, install a new roof, rebuild the chimneys, and remove the front porch, restore the south elevation only including windows and clapboard

Phase Two

1. Complete Phase Two Exterior Restoration of the House- Restore the north, east and west elevations.
2. Construct new restroom (16ft x 12ft foot print) and barrier free access to house with new door opening at window W106.
3. Install landscaping on the south side of the site including the mulch path, regrading the pond area and sections of the landscape west of the house where previous zoo pens created depressions in the terrain.
4. Install gazebo and benches.
5. Install new tent area with utility support.
6. Install barrier free path linking the house to the new restrooms.
7. Install new interpretive panels around the house to explain the history of the house and site.
8. Install benches at the noted viewpoints indicated on the concept site plan along the paths.

Phase Three

1. Complete interior restoration and adaptive use of the house.
2. Install “floating bridge” to link the north and south sides of the site.
3. Install landscaping on the north side of the site.
4. Install new ‘Barn’ Education/Space Event (16ft x 24ft foot print) with basic electric utilities only.



PHASE IA

KEY

- Clean up south side of property; regrade & trim trees.
- Remove fence & clean site perimeter
- New gravel parking surface w/ hard surface accessible pad; widen & relocate main drive.
- New soft-surface (mowed) paths.
- Plant orchard & new shade trees.
- Install new community garden.
- Install new site lighting
- Install new directional signage
- New site utilities; upgrade electric panel

Historic
Building Architects, LLC

312 West State St. Trenton, NJ 08618 TEL 609 393 3999 FAX 609 393 4333

Certificate of Authorization # AC 245 Expires 01/31/2014

Date:
08/01/2012

Drawn by:
MS

Scale:
N.T.S.

Feasibility Study and Vision Plan for
The Frazee House
1451 Raritan Road
Scotch Plains, NJ 07076

Phase IA Recommendations

A 8.03

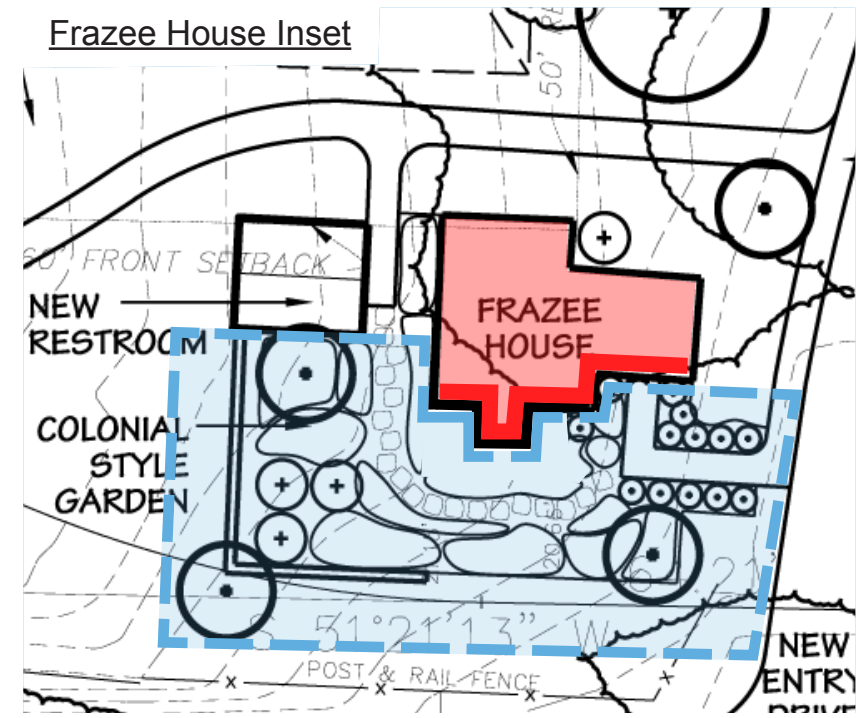
Revisions & Submissions

Date

ANNABELLE RADCLIFFE-TRENNER R.A. NJ# AI 13776



Frazee House Inset



PHASE IB

KEY

- Convert soft-surface paths to hard-surface.
- Clean up property, near Raritan Road; regrade & trim trees
- Plant new shade trees
- New plantings in front of Frazee house
- Fill in pond
- Frazee House Rehabilitation:**
 - Stabilize & restore foundation walls
 - Remove interior shoring & repair structural framing
 - Replace roof
 - Restore front facade to include removal of front addition & reconstruction of historic porch

Revisions & Submissions	Date

Feasibility Study and Vision Plan for
The Frazee House
1451 Raritan Road
Scotch Plains, NJ 07076

Phase IB Recommendations

A 8.04

Historic
Building Architects, LLC

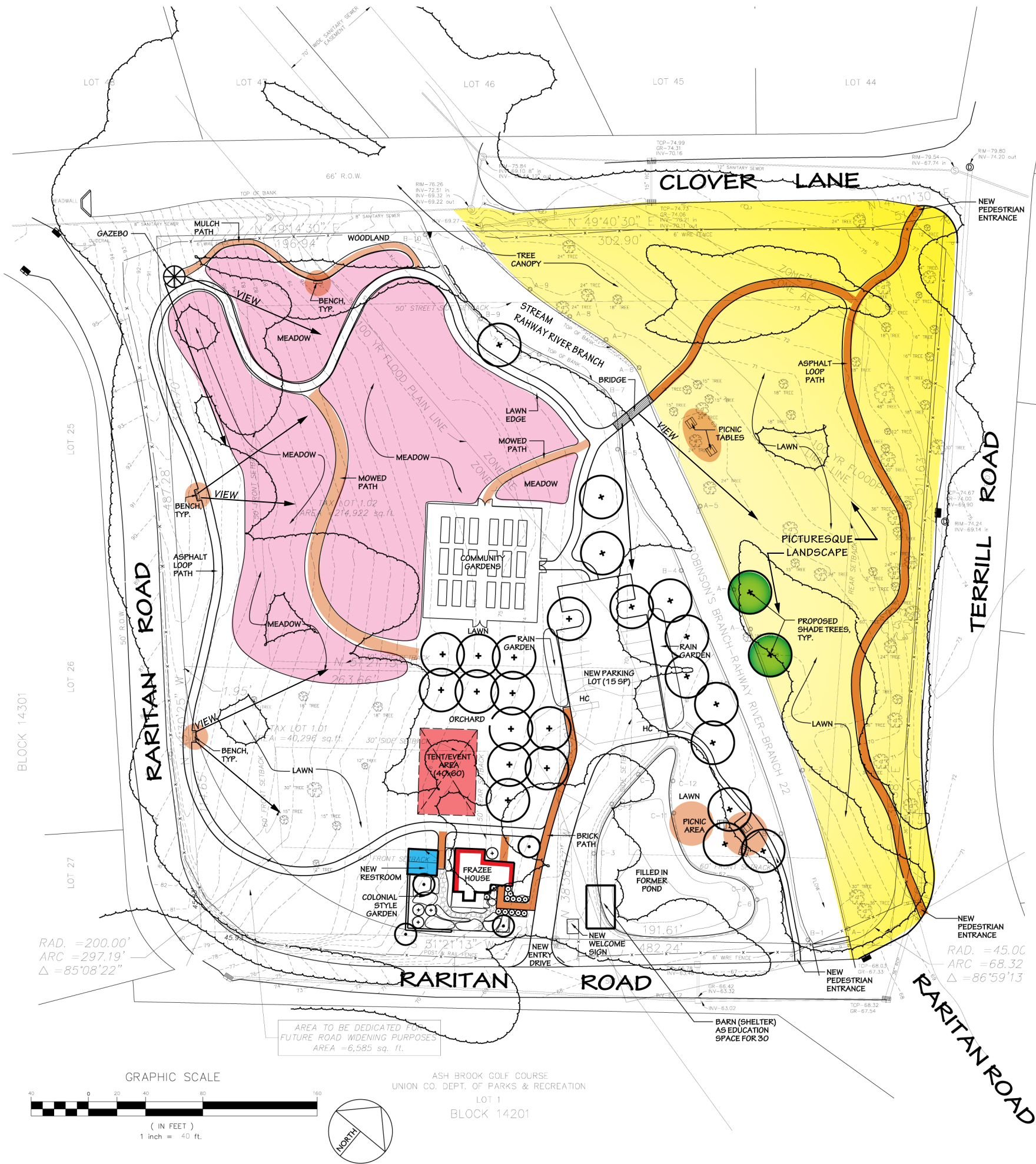
312 West State St. Trenton, NJ 08618 TEL 609 393 3999 FAX 609 393 4333
Certificate of Authorization # AC 245 Expires 01/31/2014

Date:
08/01/2012

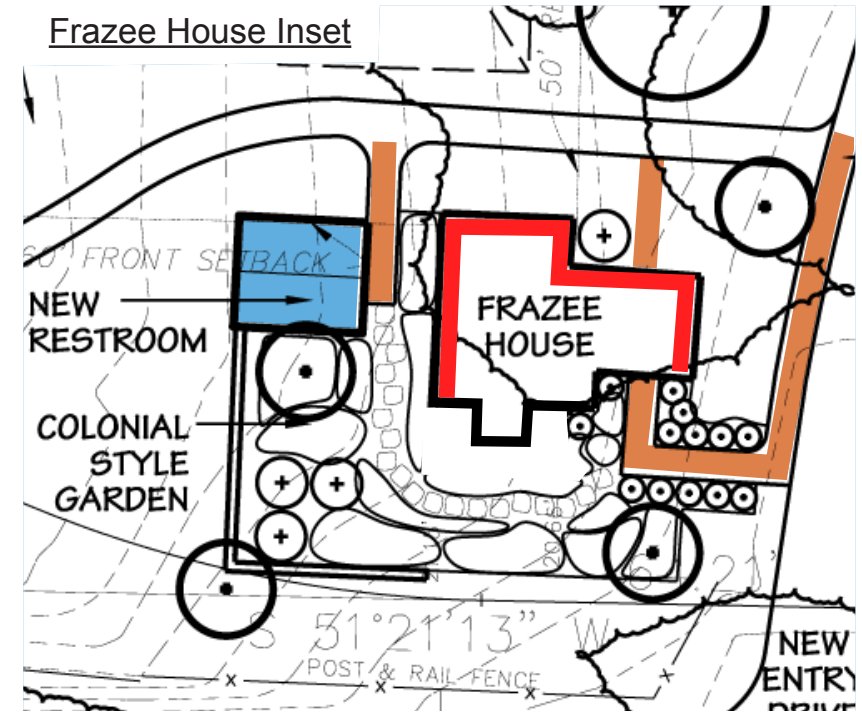
Drawn by:
MS

Scale:
N.T.S.

ANNABELLE RADCLIFFE-TRENNER R.A. NJ# AI 13776



Frazee House Inset



PHASE II

KEY

-  Clean up north side of property; regrade & trim trees
-  Plant new shade trees
-  Create new hard-surface access paths at North side.
-  Complete seating & picnic areas.
-  Create tent area for events; provide electric.
-  Plant new meadow
-  Create new soft-surface paths
-  Construct new restroom facilities
-  Complete exterior restoration & installation of (2) new barrier-free entrances; install new interpretive panels

Historic
Building Architects, LLC

312 West State St. Trenton, NJ 08618 TEL 609 393 3999 FAX 609 393 4333
Certificate of Authorization # AC 245 Expires 01/31/2014

Feasibility Study and Vision Plan for
The Frazee House
1451 Raritan Road
Scotch Plains, NJ 07076

Date:
08/01/2012

Drawn by:
MS

Scale:
N.T.S.

Phase II Recommendations

A 8.05

Revisions & Submissions

Date

ANNABELLE RADCLIFFE-TRENNER R.A. NJ# AI 13776

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

Code Compliance Study and Recommendations for Barrier-Free Access

Introduction

The purpose of this section is to provide suggestions for interior planning and adaptive use, and necessary code and safety upgrades for the Frazee House. The development of this section was based on suggestions made during the brainstorming sessions and information gathered from the online survey.

The following items were discussed:

Proposed Building Use for the Frazee House: There are three possible categories of use for the Frazee House. These can be combined to provide a use to benefit everyone in the community.

- A. Public Flexible Use: This would allow the maximum flexibility and is probably the most sustainable use. It provides an opportunity for changing needs based on the community interests. Examples of such uses include:
 - 1. Meetings and lecture space.
 - 2. Art Gallery and Changing Exhibits
 - 3. Public offices such as tourism, historic entities
- B. Permanent Public Use: This would include permanent installation. The disadvantage of this approach is that these types of uses are expensive to set up and maintain because they require staffing for any valuable collations or loans. Examples of such uses include:
 - 1. House Museum & Architectural Collections Exhibit Space
- C. Private Use: This option should be considered if the property needs to generate revenue. Leasing the space will provide funds for other activities and programs. Examples of such uses include:
 - 1. Caretakers Apartment,
 - 2. Retail Shop/Store,
 - 3. Residential (a small private apartment)

Recommendations for Adaptive Use for The Frazee House: Based on the discussions regarding the proposed uses of the building, we recommend the following adaptive use options for the Frazee House:

- 1. First Floor Public Rooms: Rooms 101 and 102 are well suited as small meeting spaces. Room 101 could accommodate approximately 20 people in a lecture style layout.
- 2. Room 103 has extensive amounts of architectural building fabric visible. This could make an excellent architectural collection exhibit and be used as flexible gathering space, as well.
- 3. Second Floor Public Rooms: Barrier free access is not possible and, therefore, the use

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

of these rooms is limited. We recommend considering small office space either private or public for these spaces.

4. Accessibility: HBA has provided a concept plan showing barrier free access to the house. The rear door of the house will be resized, if necessary, for access, and a graded wood ramp will bridge into the space. A new second barrier free door opening will be created on the West Side in Room 102 to provide access to the restrooms in the adjacent restroom building. Barrier free access to the second floor is not proposed, but a video of the second floor exhibits could be made available to visitors who are unable to visit the second floor.
5. The Interior Restoration: The interior building fabric will remain as is, where the architectural exhibit will be installed. Other exposed framing will be finished with veneer plaster walls and minor restoration and repair work necessary to incorporate the adaptive use recommendations and to maintain and preserve the existing historic fabric.
6. Public Restrooms: The house currently does not have an accessible restroom. A new accessible restroom will be built adjacent to the house and connected with an accessible walkway.

Code Compliance Study: Under the New Jersey Rehabilitation Subcode (NJAC 5:23-6.1) this overall project is considered “Rehabilitation” which means the repair, restoration, alteration or reconstruction of any building or structure. Work to be completed on the house falls in the following categories:

Interior House Restoration- Repair: “Repair” means the restoration to a good or sound condition of materials, systems and/or components that are worn, deteriorated or broken using materials or components identical to or closely similar to the existing.

Building Summary

Owner: The Township of Scotch Plains
Leased by: The Fanwood-Scotch Plains Rotary-Frazee House, Inc.
Year Built: 1761
Historic Status: Listed on the National Register of Historic Places
Height: Two Floors and a basement.
Interior Gross Area: Second Floor 910sf
 First Floor 910sf
 Basement 810sf

 Total 2630sf

Type of Construction: Type V.
Egress: Currently, the first floor has two exits.

There is one stair that leads to the second floor:

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

1. The stair is located in Room 103 and connects up to the split-level first floor rooms 101 and 102 and then to the split-level second floors and connects the first and second floors.

Basement egress is from a stair through Room 103.

Current Use: The house is currently unoccupied.

Proposed Use: Separated use. Assembly use being the most restrictive applies to designated parts of the house as listed below:

First Floor: A3 - All Rooms

Second Floor: A3 - All Rooms

Basement: Incidental use: Mechanical and storage

Attic: Unoccupied.

**Feasibility Study and Vision Plan
For The Frazee House and Site, Scotch Plains, NJ**

Occupancy Table				
FLOOR LEVEL		OCCUPANCY		
		CALCULATED		RECOMMENDED
OCCUPANCY TYPE	AREA	Sf per person	total	
Basement				
Mechanical and storage	516	300 gross	2	
Basement total	516			0
First Floor (Rooms 101, 102, 103) Assembly				
Standing Space	726	5 net	145	
Assembly- concentrated (chairs only)	726	7 net	103	
Assembly- unconcentrated (tables and chairs)	726	15 net	48	48
Auxiliary	25	--	0	
First Floor total				48
Second Floor (Rooms 201, 202, 203) Assembly				
Standing Space	831	5 net	166	
Assembly - concentrated	831	7 net	118	
Assembly - unconcentrated	831	15 net	55	12
R5- Residential	843	200 gross	4	1
Second Floor total	843			10
TOTAL BUILDING OCCUPANCY				60

NOTE: HBA recommends that the second floor be posted for under 15 with the entire building occupancy posted at a maximum of 75 in total.

Recommendations:

1. Illuminated Exit signs and a fire detection system should be installed.
2. Hard wired new smoke detectors for all floors including Basement.
3. Barrier-free entrance and alterations to doors to allow 1st floor access to all the rooms. Egress doors in the first floor Rooms 101 and 103 should swing outward for egress.
4. Emergency lighting at stair.
5. One hour fire separation between the basement and the first floor using two layers of sheetrock for incidental use spaces according to the International Building Code New Jersey Edition, Table 302.1.1.
6. A barrier-free bathroom will be installed in the new restroom building.



Frazee House and Site Feasibility Study and Vision Plan Scotch Plains, NJ

May 15, 2012



Architect:

Historic Building Architects, LLC
312 West State Street
Trenton, NJ 08618
(609) 393 3999

Cost Estimator:

Daedalus Projects Incorporated
112 South Street
Boston, MA 02111
(617) 451 2717

INTRODUCTION

Project Description:

- New signage and visitor entrances
- New vehicular circulation and parking, ADA accessibility
- Site clearing and clean up for public safety
- New landscaping and restoration of traditional meadow and woodland
- New minimal site lighting for safety and aesthetic purposes
- New restroom "Garden Shed"
- New multi-Purpose "Barn"
- House restorations

Project Particulars:

- Draft Report dated April 19, 2012 prepared by Historic Building Architects.
- Daedalus Projects, Inc. experience with similar projects of this nature.
- Discussion and review with Historic Building Architects and their Consultant Design Team.

Project Assumptions:

The project will be a private bid. Our costs assume that there will be at least three subcontractors submitting unrestricted bids in each sub-trade, and at least four General Contractors.

Our estimate assumes it will be bid among at least three selected pre-qualified general contractors.

The Total Construction Cost reflects the fair construction value of this project and should not be construed as the prediction of the lowest bid.

Unit rates are based on current dollars

Anticipated execution of Construction Contract for Phase IA is June 2013

Phase IB is June 2015

Phase II is June 2018

Phase III is June 2023

Subcontractor's markups have been included in each unit rate. Markups cover the cost of field overhead, home office overhead and subcontractor's profit.

Design and Pricing Contingency markup is an allowance for unforeseen design issues, design detail development and specification clarifications.

General Conditions and Requirements value covers Contractor's bond, site office overheads, and building permit applications.

Overhead and profit markup is calculated on a percentage basis of direct construction costs. The value covers Contractor's bond, insurance and profit.

INTRODUCTION

Estimate Exclusions:

- Professional Service fees and other soft costs.
- Interest expense.
- Owner's project administration.
- Construction contingency.
- Construction of temporary facilities.
- Relocation expenses.
- Printing and advertising.
- Specialties, loose furnishings, fixtures and equipment beyond what is noted.

CSI SUMMARY

ELEMENT	ESTIMATED COSTS			
	Phase IA	Phase IB	Phase II	Phase III
01-GENERAL REQUIREMENTS	\$63,172	\$53,922	\$32,704	\$70,795
02-SITEWORK	\$344,258	\$153,565	\$225,756	\$135,789
03-CONCRETE				
04-MASONRY		\$123,738	\$806	\$10,615
05-METALS				
06-WOOD - ROUGH & FINISH CARPENTRY		\$165,394	\$13,239	\$32,489
07-THERMAL & MOISTURE PROTECTION		\$84,768	\$18,330	
08-OPENINGS DOORS & WINDOWS		\$27,936	\$16,829	
09-FINISHES		\$4,243	\$3,449	\$196,426
10-MISCELLANEOUS				
15-HEATING & PLUMBING				\$4,374
16-ELECTRICAL	\$1,525			\$87,479
Estimated Construction Cost Total (including all markups)	\$408,955	\$613,565	\$311,114	\$537,968

Restoration Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	ESTIMATED COSTS			
				Phase IA	Phase IB	Phase II	Phase III
01-GENERAL REQUIREMENTS							
NJHT Project Sign	1	AL	\$500.00	\$500	\$500	\$500	\$500
House maintenance and monitoring plan, routine schedule	1	LS	\$5,000.00	\$5,000			
Notify Police and Fire Departments	1	LS	\$1,000.00	\$1,000	\$1,000	\$1,000	\$1,000
Overheads				\$50,000	\$45,000	\$25,000	\$50,000
Profit on overheads	10.0%			\$5,650	\$4,650	\$2,650	\$5,150
Escalation Allowances for Phasing							
Immediate, 2013	1.6%			\$1,022			
Phase IB is June 2015	5.4%				\$2,772		
Phase II is June 2018	12.2%					\$3,554	
Phase III is June 2023	25.0%						\$14,145
01-GENERAL REQUIREMENTS TOTAL				\$63,172	\$53,922	\$32,704	\$70,795
02-SITEWORK							
Attractive signs	1	LS	\$10,000.00	\$10,000			
Reconfigure drive entrance	1	LS	\$5,000.00	\$5,000			
Gravel driveway, public parking spaces	9,270	SF	\$15.00	\$139,050			
Clear and clean up South site, remove dead trees, pruning, re-grading	4.3	ACRE	\$7,500.00	\$24,750	\$7,500		
Plant orchard	16	EA	\$500.00	\$8,000			
Mowed path, South Side	6,260	SF	\$1.50	\$9,390			
Community garden	6,400	SF	\$10.00	\$64,000			
Directional signage, Terrill & Raritan Roads	3	LOC	\$2,500.00	\$7,500			
Site utility infrastructure; water, sewer, electric	1	LS	\$50,000.00	\$50,000			
Remove perimeter fence, Terrill Road	700	LF	\$30.00	\$21,000			
Re-landscape front of house, new planting	2,610	SF	\$25.00		\$65,250		
New trees	10	EA	\$500.00		\$4,000	\$1,000	
Asphalt barrier free path, South side	6,260	SF	\$5.00		\$31,300		
Infill former pond	800.0	CY	\$35.00		\$28,000		
Pedestrian entrance over bridge	1	LOC	\$2,500.00		\$2,500		

Restoration Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	ESTIMATED COSTS			
				Phase IA	Phase IB	Phase II	Phase III
40							
41 Clear and clean up North side of river, remove dead trees, pruning, re-grading, new grass planting where necessary	1.8	ACRE	\$4,500.00			\$8,202	
42 Asphalt barrier free path, North side	3,655	SF	\$5.00			\$18,275	
43 Brick path to house and new restrooms	1,560	SF	\$15.00			\$23,400	
44 Mulch path	800	SF	\$5.00			\$4,000	
45 Mowed path	2,790	SF	\$1.50			\$4,185	
46 Plant new meadow	62,100	SF	\$0.20			\$12,420	
47 Bench	3	EA	\$2,000.00			\$6,000	
48 Tent area, utility support	1	LS	\$7,500.00			\$7,500	
49 Restroom; (2) barrier-free unisex bathrooms, storage, covered porch	218	GSF	\$350.00			\$76,315	
50 New interpretative panels around house	1	LS	\$5,000.00			\$5,000	
52 Gazebo	1	EA	\$5,000.00				\$5,000
53 Barn; 16' x 24', basic electric	384	GSF	\$200.00				\$76,800
54 New 'flotilla style bridge	1	LS	\$8,000.00				\$8,000
55							
56 Design and Pricing Contingency	10.0%			\$338,690	\$138,550	\$166,298	\$89,800
57 Profit	10.0%					\$16,630	\$8,980
58 Escalation Allowances for Phasing						\$18,293	\$9,878
59 Immediate, 2013	1.6%			\$5,568			
60 Phase IB is June 2015	5.4%				\$15,015		
61 Phase II is June 2018	12.2%					\$24,536	
62 Phase III is June 2023	25.0%						\$27,131
63 02-SITWORK TOTAL				\$344,258	\$153,565	\$225,756	\$135,789
64							
65							
66 04-MASONRY							
67							
68 Remove contemporary concrete patching at exterior foundation walls	205	SF	\$6.00		\$1,231		
69 Complete masonry foundation repairs	120	LF	\$100.00		\$11,983		

Restoration Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	ESTIMATED COSTS			
				Phase IA	Phase IB	Phase II	Phase III
70 Rebuild foundation walls especially at NE corner of West Wing - 30% rebuilding allowance provided	36	LF	\$1,000.00		\$35,949		
71 Rebuild bulging brick wall/nogging, allow	60	SF	\$75.00		\$4,500		
72 Deep repointing foundation walls at interior basement and exterior walls - 100%	1,320	SF	\$30.00		\$39,604		
73 Remove concrete porch, East Wing	95	SF	\$20.00		\$1,900		
74 Rebuild chimney, repoint interior masonry and exterior chimney walls	1	LS	\$10,000.00		\$10,000		
75 Replace loose rubble fieldstone foundation wall	1	LS	\$5,000.00		\$5,000		
76 Rebuild stone foundation wall	1	LS	\$5,000.00		\$5,000		
77 Gather on site and carefully store for reuse large round loose fieldstones	1	LS	\$2,000.00		\$2,000		
78 Clean stone of dirt, paint and biological growth	60	SF	\$3.50		\$210		
79 Clean masonry of dirt, paint and biological growth	205	SF	\$3.50			\$718	
80 Remove efflorescence; interior face of chimney, Kitchen	640	SF	\$2.50				\$1,599
81 Replace cracked 3 wythe brick wall, interior East/West Wing stair	1	LS	\$2,500.00				\$2,500
82 New lime wash to basement walls	855	SF	\$5.00				\$4,276
83 Remove paint drips and stains	60	SF	\$2.00				\$120
84 Subtotal					\$117,377	\$718	\$8,494
85 Design and Pricing, Profit and Escalation Markups as per Section 02 details above							
86 Immediate, 2013	1.6%						
87 Phase IB is June 2015	5.4%				\$6,360		
88 Phase II is June 2018	12.2%					\$88	
89 Phase III is June 2023	25.0%						\$2,121
90 04-MASONRY TOTAL					\$123,738	\$806	\$10,615
91							
92							
93 06-WOOD - ROUGH & FINISH CARPENTRY							
94							
95 Repair all framing members, Basement	615	SF	\$10.00		\$6,154		
96 Replace framing members, Basement - 60% allowance provided	370	SF	\$30.00		\$11,106		
97 Repair all framing members, Above Basement	2,510	SF	\$10.00		\$25,096		
98 Replace framing members, Above Basement - 30% allowance provided	753	SF	\$30.00		\$22,587		
99 Repair exterior wall framing	2,050	SF	\$5.00		\$10,248		
100 Replace exterior wall framing, 50% allowance provided	1,025	SF	\$15.00		\$15,372		

Restoration Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	ESTIMATED COSTS			
				Phase IA	Phase IB	Phase II	Phase III
101 Repair roof framing	1,675	SF	\$10.00		\$16,752		
102 Replace roof framing, 20% allowance provided	335	SF	\$30.00		\$10,051		
103 Remove contemporary wood paneling on walls, inspect, make any necessary framing repairs; Rms 101, 201	960	SF	\$10.00		\$9,595		
104 Remove contemporary wood paneling on ceilings, inspect. Framing repairs included above item; Rms 101, 102	615	SF	\$2.00		\$1,231		
105 Repair wood sill at foundation	120	LF	\$10.00		\$1,203		
106 Replace sill at foundation - 60% allowance provided	75	LF	\$30.00		\$2,256		
107 Install new wood porch and steps, East Wing South Elevation	1	LS	\$7,500.00		\$7,500		
108 Install new wood steps, East Wing North Elevation	1	LS	\$1,000.00		\$1,000		
109 Barrier free access, East Wing	1	LS	\$1,000.00		\$1,000		
110 Restore wood roof eave and gable trims	190	LS	\$25.00		\$4,742		
111 Repair rot from water damage	1	LS	\$1,000.00		\$1,000		
112 Replicate front porch, South Elevation West Wing	1	LS	\$10,000.00		\$10,000		
113 Repair or rebuild stair; Basement to Attic	3	FLT	\$2,500.00			\$7,500	
114 Remove contemporary flooring materials, restore wide panel wood floor; Rm 101	1	LOC	\$1,000.00			\$1,000	
115 Install new wood floor, Kitchen	220	SF	\$15.00			\$3,300	
116 Restore interior wood trim, doors, floors, and baseboards	1,900	GSF	\$10.00				\$18,997
117 Restore or replicate historic built-in cupboards, Rms 101 & 103	2	EA	\$1,000.00				\$2,000
118 Restore or replicate historic fireplace mantel - currently off-site	1	LS	\$5,000.00				\$5,000
119 Subtotal					\$156,893	\$11,800	\$25,997
120 Design and Pricing, Profit and Escalation Markups as per Section 02 details above							
121 Immediate, 2013	1.6%						
122 Phase IB is June 2015	5.4%				\$8,501		
123 Phase II is June 2018	12.2%					\$1,439	
124 Phase III is June 2023	25.0%						\$6,491
125 06-WOOD - ROUGH & FINISH CARPENTRY TOTAL					\$165,394	\$13,239	\$32,489
126							
127							
128							
129							
130							

Restoration Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	ESTIMATED COSTS			
				Phase IA	Phase IB	Phase II	Phase III
131 07-THERMAL & MOISTURE PROTECTION							
132							
133 Façade restoration; remove contemporary wall cladding and trim, repair wood clapboard, restore wood trim, prime and paint	2,050	SF	\$10.00		\$5,124	\$15,372	
134 Premium for paint removal from original clapboards	515	SF	\$2.50		\$322	\$966	
135 Remove roofing and install new wood shingle roofing w/terne coated stainless steel flashings	1,675	SF	\$40.00		\$67,008		
136 Replace gutters, downspouts and extensions	145	LF	\$55.00		\$7,956		
137 Subtotal					\$80,410	\$16,338	
138 Design and Pricing, Profit and Escalation Markups as per Section 02 details above							
139 Immediate, 2013	1.6%						
140 Phase IB is June 2015	5.4%				\$4,357		
141 Phase II is June 2018	12.2%					\$1,992	
142 Phase III is June 2023	25.0%						
143 07-THERMAL & MOISTURE PROTECTION TOTAL					\$84,768	\$18,330	
144							
145							
146 08-OPENINGS DOORS & WINDOWS							
147							
148 Investigate window/door opening concealed frame for extent of water and termite damage	14	EA	\$250.00		\$3,500		
149 Restore door, frame and hardware; Front Elevation only	3	LEAF	\$1,500.00		\$4,500		
150 Restore window and hardware	21	EA	\$1,000.00		\$10,000	\$11,000	
151 Restore all interior doors and openings	8	LOC	\$750.00		\$6,000		
152 Remove contemporary replacement window (W109), replace w/historically correct replica	1	EA	\$2,500.00		\$2,500		
153 New door at W106	1	LEAF	\$2,500.00			\$2,500	
154 Widening of D108	1	LEAF	\$1,500.00			\$1,500	
155 Subtotal					\$26,500	\$15,000	
156							
157							
158							

Restoration Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	ESTIMATED COSTS			
				Phase IA	Phase IB	Phase II	Phase III
159 Design and Pricing, Profit and Escalation Markups as per Section 02 details above							
160 Immediate, 2013	1.6%						
161 Phase IB is June 2015	5.4%				\$1,436		
162 Phase II is June 2018	12.2%					\$1,829	
163 Phase III is June 2023	25.0%						
164 08-OPENINGS DOORS & WINDOWS TOTAL					\$27,936	\$16,829	
165							
166							
167 09-FINISHES							
168							
169 Paint analysis investigation	1	LS	\$1,500.00		\$1,500		
170 Wall paper historic research	1	LS	\$1,500.00				\$1,500
171 Protect remaining plaster	1	LS	\$1,500.00				\$1,500
172 Plaster analysis	1	LS	\$1,500.00				\$1,500
173 Complete exterior paint analysis	1	LS	\$1,500.00		\$1,500		
174 Paint exterior	2,050	SF	\$2.00		\$1,025	\$3,074	
175 Complete interior paint analysis and historic wallpaper research	1	LS	\$2,000.00				\$2,000
176 Restore all plaster walls and paint finishes	3,530	SF	\$40.00				\$141,181
177 Restore wood floor board finishes	1,900	SF	\$5.00				\$9,499
178 Subtotal					\$4,025	\$3,074	\$157,179
179 Design and Pricing, Profit and Escalation Markups as per Section 02 details above							
180 Immediate, 2013	1.6%						
181 Phase IB is June 2015	5.4%				\$218		
182 Phase II is June 2018	12.2%					\$375	
183 Phase III is June 2023	25.0%						\$39,247
184 09-FINISHES TOTAL					\$4,243	\$3,449	\$196,426
185							
186							
187							
188							
189							
190							

Restoration Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	ESTIMATED COSTS			
				Phase IA	Phase IB	Phase II	Phase III
191 10-MISCELLANEOUS							
192							
193 Remove paneling to observe structural framing condition	345	SF	\$5.00		\$1,725		
194 Subtotal							
195 Design and Pricing, Profit and Escalation Markups as per Section 02 details above							
196 Immediate, 2013	1.6%						
197 Phase IB is June 2015	5.4%						
198 Phase II is June 2018	12.2%						
199 Phase III is June 2023	25.0%						
200 10-MISCELLANEOUS TOTAL							
201							
202							
203 15-HEATING & PLUMBING							
204							
205 Remove sanitary plumbing	1	LS	\$1,500.00				\$1,500
206 Remove baseboards and radiators	1	LS	\$2,000.00				\$2,000
207 Subtotal							\$3,500
208 Design and Pricing, Profit and Escalation Markups as per Section 02 details above							
209 Immediate, 2013	2%						
210 Phase IB is June 2015	5%						
211 Phase II is June 2018	12%						
212 Phase III is June 2023	25%						\$874
213 15-HEATING & PLUMBING TOTAL							\$4,374
214							
215							
216 16-ELECTRICAL							
217							
218 Upgrade electrical panel	1	LS	\$1,500.00	\$1,500			
219 Replace all wiring	1	LS	\$15,000.00				\$15,000
220 Install new energy efficient light fixtures in keeping w/historic character of House	1	LS	\$50,000.00				\$50,000
221 Install fire detection system and fire safety signs	1	LS	\$10,000.00				
222							

Restoration Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	ESTIMATED COSTS			
				Phase IA	Phase IB	Phase II	Phase III
223 Provide basic heat and power	1	LS	\$5,000.00				\$5,000
224 Subtotal				\$1,500			\$70,000
225 Design and Pricing, Profit and Escalation Markups as per Section 02 details above							
226 Immediate, 2013	2%			\$25			
227 Phase IB is June 2015	5%						
228 Phase II is June 2018	12%						
229 Phase III is June 2023	25%						\$17,479
230 16-ELECTRICAL TOTAL				\$1,525			\$87,479
231							
232							
233							
234							
235 Estimate Construction Cost Total				\$408,955	\$613,565	\$311,114	\$537,968
236							
237							
238							
239							

APPENDIX A

A vision for the
Frazer House and Property

Branding Workshop for the Community
Sponsored by



**Fanwood-Scotch
Plains Rotary Club**

December 15th 2011, 6:30PM to 9:00PM

Professional Team Facilitators

Andy Mertz, The Mertz Group

Annabelle Radcliffe-Trenner, Historic Building Architects LLC

Sophia Jones, Historic Building Architects LLC

Agenda

- 6:30 Refreshments**
- 6:45 Introduction- Brief History, What has been done so far & next steps**
- 7:00 Landscape Workshop Overview**
- 7:20 Brainstorming Session**
- 8:45 Meeting Wrap-up & Questions**
- 9:00 Program Ends**

Historic Overview

- Built in the early 1700s for Gershom Frazee, Sr.
- Gershom Frazee, Jr. inherits the home in 1756.
- Damage claims were filed for the house after the Battle of Short Hills on June 26th 1777.
- Elizabeth Frazee lived in the house until 1815.
- Little change occurred until the 1940s when there was significant structural alterations.
- Terry Lou Zoo opened in 1949 and operated until 1994.
- 1998, identified as 1 of 10 most endangered properties in NJ, & acquired by the Township of Scotch Plains.



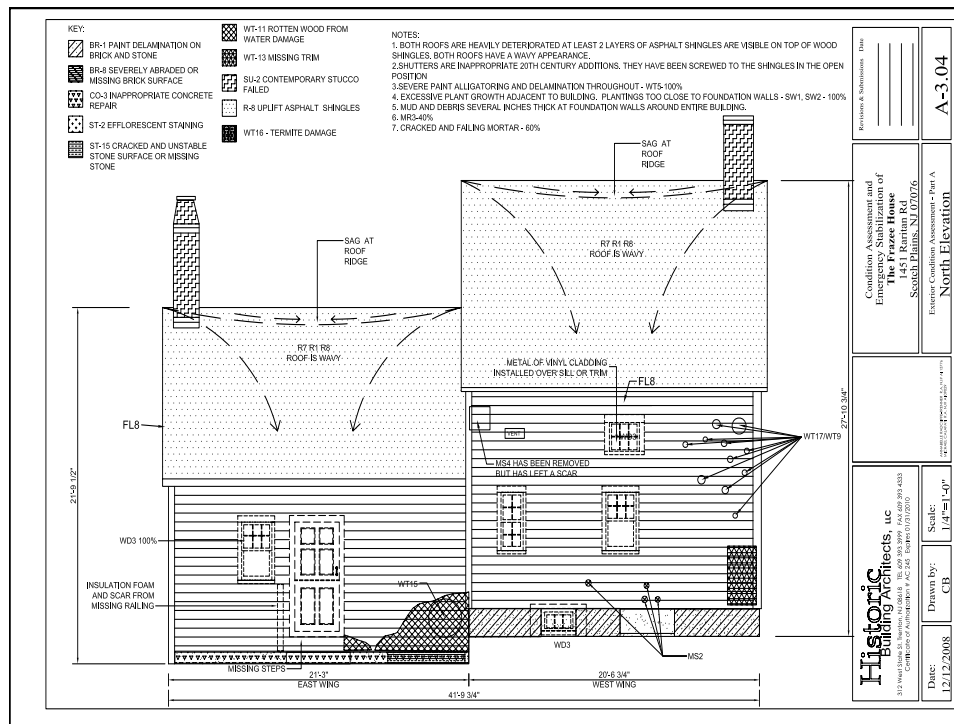
Oldest Known Photograph of the Frazee House, c. 1885

**Condition Assessment & Emergency Structural
Stabilization Report December 2008-09**

- Planning Document
 - Mothballing
 - Emergency Stabilization
 - Dendrochronology- 1762 timber
 - Resistance Drilling
 - Wood Species Identification
- Phased Plan For Repair
 - Realistic Phases of work
 - Cost Estimate by Phase



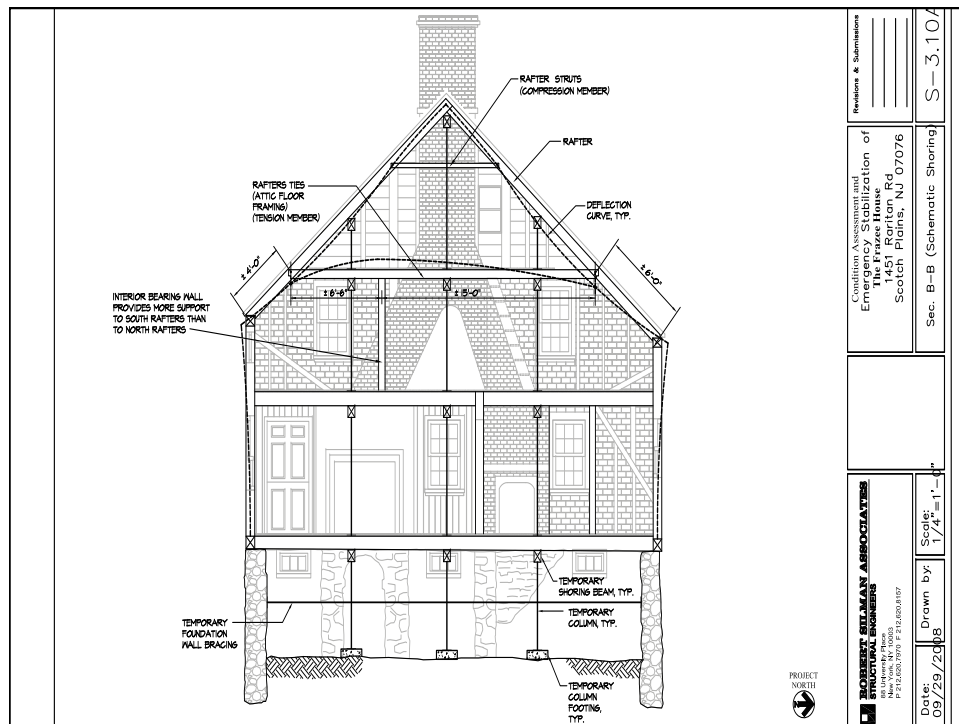




Structural Conditions

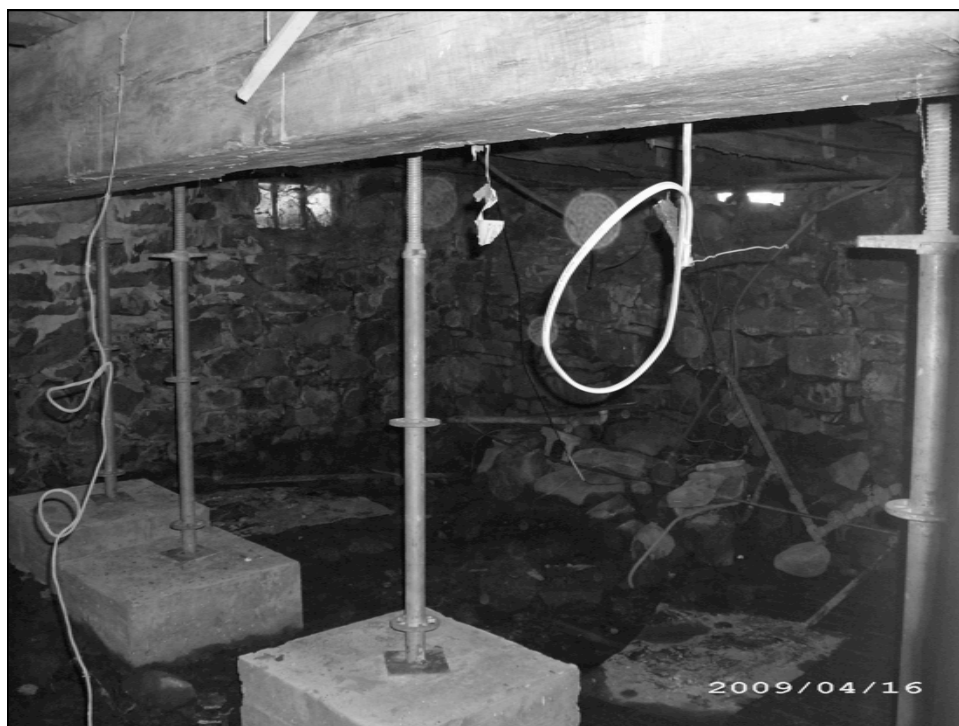
- Termite damage of all types of wood framing (floor, wall, and roof)
- Basement and Foundation Walls failure
- Roof structure deflection and over stress
- Unstable and failing chimneys

Robert Silman Associates, Structural Engineers, NY



Phase I Emergency Structural Stabilization Completed in May 2009

- Remediate animal and termite infestations
- Close off openings and provide ventilation
- Regrade site and improve drainage
- Relocate sump pump drain to South elevation
- Provide emergency shoring for stairs
- Shore roof and walls internally
- Carefully dismantle chimney







Phase 2 Emergency Work Completed by Rotary Club Volunteers

- Cleanout debris and stored items
- Remove plant growth and trim trees
- Tag, label, and save original building fabric
- Develop maintenance monitoring plan
- Notify authorities that property mothballed
- Inspect and maintain sump pump & install an emergency battery
- Replace all non-grounded electrical wires
- Upgrade temporary lighting

Grants Awarded

- Union County History Grant 2007- \$,3500
- Preserve Union County Grant 2007- \$8,375
- Fanwood Foundation Grant 2007- \$2,500
- Union Trust Grant 2007- \$5,000
- Grassman Foundation Grant 2007- \$5,000
- Union County Community Development Block Block Grant 2007- \$15,000
- Union County Community Development Block Grant 2008- \$17,500
- New Jersey Historic Trust HSM Grant 2007- \$22,824
- Town of Scotch Plains- Maintenance & Support
- Fanwood-Scotch Plains Rotary Club \$10,000+
- New Jersey Historic Trust HSM Grant 2010- \$29,126

Brainstorming Session

- Why a Vision Plan?
- What Value does this Property have to the Community?
- What should the future be for the house and property?



Values

Socio Economic/ Political

ECONOMIC Value - Value generated by the heritage source or by the preservation action. Potential sources: tourism, commerce, use and amenities.

FUNCTIONAL Value - Related to the above, either the continuity of the original use or the initiation of a new use.

EDUCATIONAL Value - Potential for cultural tourism and awareness of culture and history and its integration into everyday life.

SOCIAL Value - Related to traditional social activities, grass routes efforts to identify traditions related to the resource.

POLITICAL Value - The resource can be influenced by the intentions of politicians today and in the past.

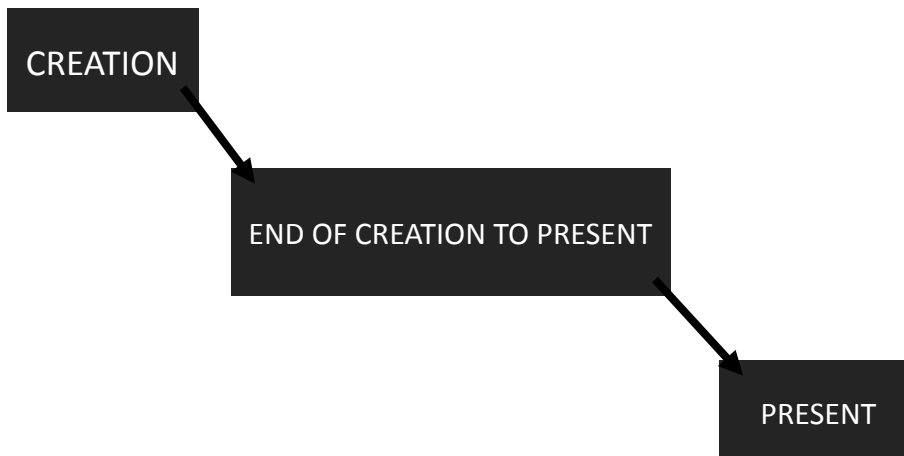
Cultural/ Traditional

IDENTITY Value - Emotional values of society today, such as age, tradition, continuity, legend, spiritual, political and patriotic values.

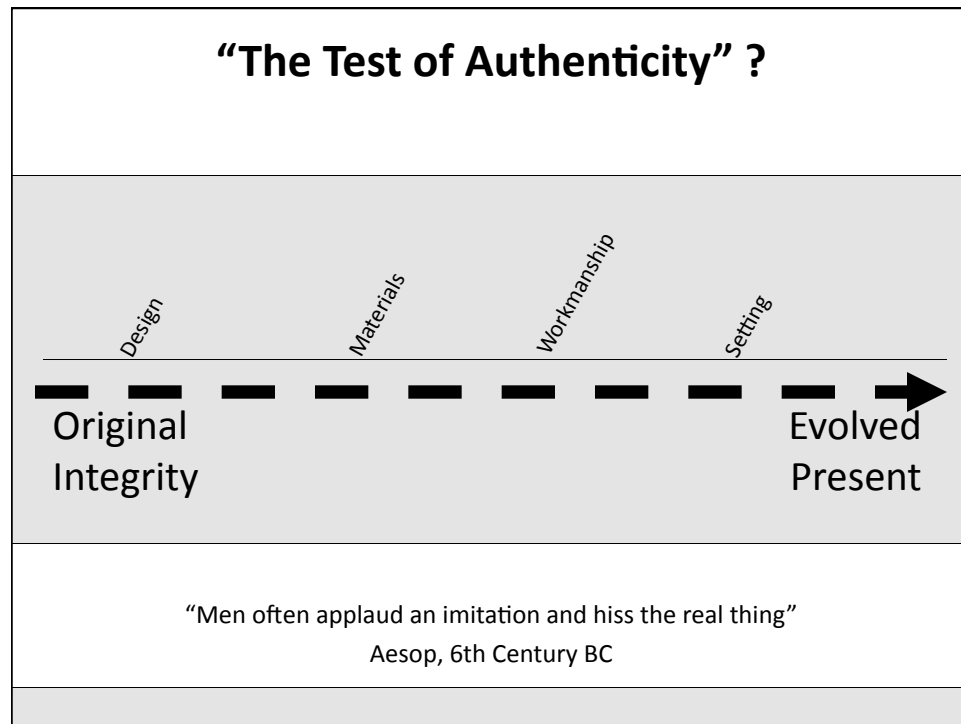
ARTISTIC OR TECHNICAL Value - Based research by professionals to assess the historic and building fabric value.

RARITY Value - Relates resource to other constructions of the same type, style, builder, period and region, focusing on its uniqueness.

“Historical Time Line of Change”?



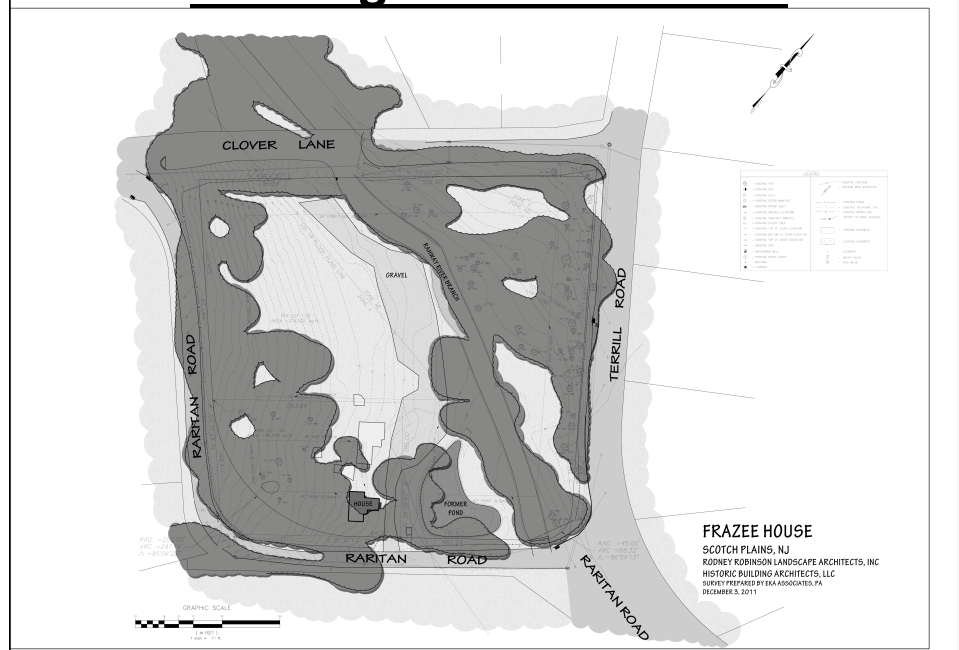
“A heritage resource is unique in relation to the historical time, because it tells a story of change which is non-renewable.”



Landscape Session Overview

- Site walking tour completed to observe potential views and access for the site.
- Reviewed potential uses for the site
- Reviewed Likes and Dislikes for the site
- Fundraising Opportunities

Walking Tour and Access



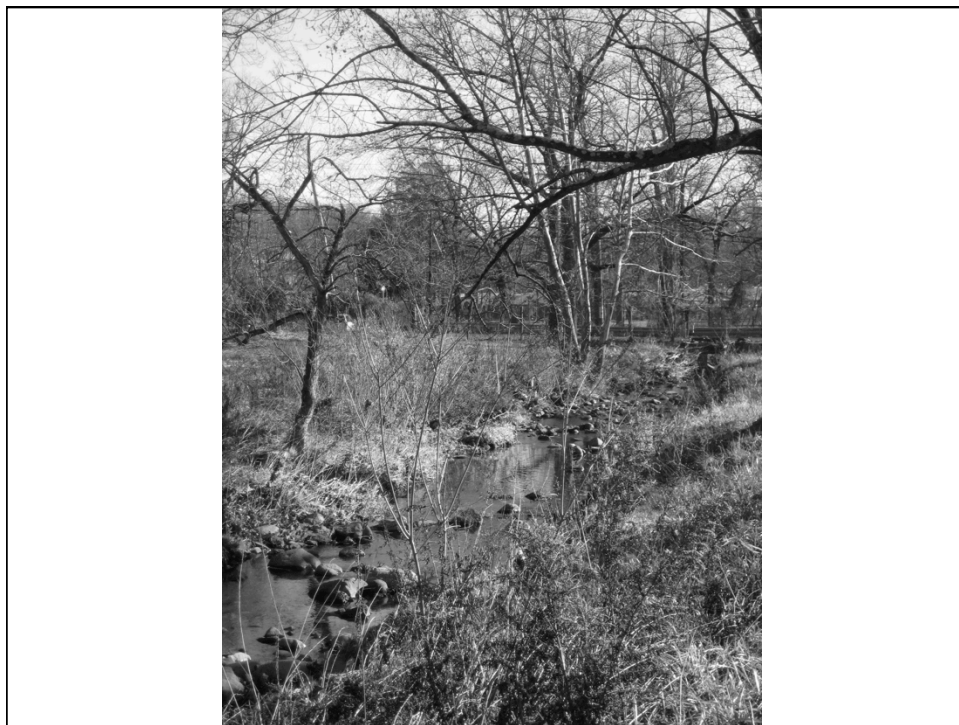
Site Access:

- Sharp turn into drive
- No directional signage to the site











Landscape Session Overview

- Destination/ Tourism Point
- American Battlefield Protection Program
- Cross Roads of American Revolution
- Union County Four Centuries in a weekend
- Liberty trail
- Nature Meadow, Grasslands, Orchard
- Hike, Biking
- Hydrology, ecosystems- School Programs
- Community Garden
- Farmers Market
- Music Venues
- Par Course
- Picnic areas
- Wedding site
- Colonial Garden
- No athletic Fields or organized sports
- House restoration workshops
- House museum

Potential Uses for Site and House

Landscape Session Overview

Likes

- The potential for the house to be restored
- Potential for community and school programs
- Public Park
- History of the site

Dislikes

- Front yard is unattractive- No curb appeal
- House is boarded up
- Front addition on house could be removed
- Pedestrian Access is difficult- No bridge on site to connect the two sides that are bisected by the river

Likes vs. Dislikes for the Site and House

“Brandstorming” Session

- What are your goals for marketing the Frazee House and Property (FH&P)?
- What are the most unique characteristics and features?
- What is the Vision for the FH&P?
- What opportunities do you see for the FH&P?
- What trends do you see that will affect the FH&P?
- Who are the key customers/ stakeholders?
- What is most important to them?

Understanding Phase

“Brandstorming” Session

- How is the FH&P perceived, its brand image?
- Do you want to change the perception?
- What is the competitive advantage vs. other historic sites?
- What can be done at the FH&P better than any other surrounding property?
- What is the heart and soul of the FH&P?

Clarifying Phase

“Brandstorming” Session

- Describe the FH&P in 1 word (brand essence)
- What other key words/ adjectives summarize the FH&P?
- What do you think are the most unique attributes?
- What promise can we make to prospects?
Elevator speech
- Give a slogan for the FH&P

Positioning

“Brandstorming” Session

- What are the unique selling points previously discussed?
- What is the core brand essence you want taken away in future?
- Is it distinctive? Can you back it up?

Brand Essence

“Brandstorming” Session

- If cost were no object what would you add to make the Frazee House and Property more marketable/attractive to prospects?

Wish List

Wrap-Up and Questions

Survey & Save the Date

Please take our online survey at:

www.surveymonkey.com/s/frazeehousesurvey

Save the Date:

Educational Forum –

Enriching our Local Education

January 5, 2012 – 6:30pm

Location: Scotch Hills Golf Course

Frazer House Branding Workshop Notes

- Getting the word out- foot traffic and vehicular traffic would generate interest
 - The township is responsible for 5 acres
 - Frazer group responsible for 1 acre
 - What is the low way to get people on the site immediately? It's a step by step process
 - There is room for passive parks, this would be a need that needs to be met
 - Planning needs to be phased
 - No community garden in town- deer fence would be needed
 - What are the restrictions? Much of the property is a flood zone.
 - It could become a museum center
 - The Terry Lou Zoo is also an important part of the site
 - Have an exhibit on the zoo- photo contest of the zoo, have judges, \$25 to enter, to represent the history of the zoo
 - Landscape- purchase a tree dedicated to a pet that has passed
 - Businesses, lit animals to create a light show, donated by the businesses
 - Fund a smaller model of the house
 - Dvd telling the story of the house, maybe apart of the exhibit
 - Restoration of the house, what value in the building fabric now? Should the house be replicated? Would be cheaper to do this?
- Branding

What appeals to people?

- Need to sell an experience in scotch plains
- What's in your mind?
- 70%- why is anyone interested in coming here?
- 30%- what you want?
- No other place has an Aunt Betty- add appeal to the story, grab attention
- Grabs attention of school kids, families
- Ideas to get people here- then you have to create an experience
- Physical landscape and what is the house? What is the experience?
- Good location- Cross roads of the revolution
- Could end up with something very unique to offer
- If there was no Aunt Betty, the property would be a nursing home now. The Frazer group took over the property to prevent this.
- The women's club did something for the tercentennial and bicentennial, Center for Hope hospice, featuring aunt betty at the vocation school, there was an ox roast on the town green
- She's popular among the school children, through the school, the story, no character

- 2 Lords and a Lady- Frank Thorn is the writer, DVD, was a driving force, the video could be put online
- Brand that registers is something that comes to mind everyday, at the moment its not expansive
- Should the house be rebranded? The aunt betty Frazee house may be too long,
- Student involvement, maybe put a bakery in the house
- Branded bread
- Reenactment on the site the battle
- Concerts during the summer- Wednesday nights jazz club
- For the adults both the Zoo and Aunt betty are important
- Zoo- palomino horses, pony rides, brought animals they didn't like, then the animals grew, then he got in contact it zoos that were undesirable

What's the experience once you arrive to the site?

- Creating a unique experience
- Animals have been apart of the property for 300 years- horses, stable animals
- A few ponies, bakery, walking trails
- Cornwallis trail and Revolutionary war experience live
- Advantages to businesses to promote themselves, bring the vendors in to make an experience
- Technology- it would be nice to step on the site and step back in time but to have some interaction to experience
- Betty Frazee Day- provide a experience, larger scale Coopers Town NY Hall of Fame- Farmers Museum, Clinton- one room schoolhouse
- Children could learn what they used the land for, have docents walk people around the property to explain the land use
- Maybe the Betty Frazee House experience to sell the property
- Calendar of events promoting the Frazee property for a period of time- character out and about in the community
- Currently people just pass by the house, people that don't know the area have no idea what the house is-exhibits would be a good start around the house to read about the historic significance of the property, to bring people onto the property
- Sustainable facilities- bathroom, may be temporary
- Store and memorabilia to promote the site, book store concept
- Living off the land- community garden, food programs, themes of food
- Need directional signage, new clean simple sign
- Get to 80% to where you want it to be with out spending a lot of money
- Township signs- Home of Aunt Betty Frazee
- Memorial Day parade, Scotch Plains Day- (vendors, rides, band), Summer cultural arts series, historical society runs Cannon Ball Museum, open first Sunday of the month, host tree lighting- scouts
- Two sides- everything happens on the North side, no activities on the south side

- Country club- the only black owned country club on the eastern seaboard
- Fanwood has Fannie Wood Day, Fanwood and Scotch Plains merging, Fannie Wood is a fictional character
- Could do digital scanner of bars to give information about the site

Park spaces in area

- New park just built- south side
- Every other field has a ball field
- Try to maintain as natural as possible and still make it usable
- Could possibly have a horse stable on the property
- Ponies used to go around the pond
- Camp outs- scouts

How would you gage the success?

- More people coming?
- How many events are taking place
- Could have donation box in place
- It being used positively and not be vandalized
- Core of community volunteers that stay committed- friends group active
- How to get the children involved- activities to get the young people involved
- Appoint someone to tap into the community get involved- the director of social studies will be involved- Middle and High school involved, scout troops
- Grass Roots Involvement

Agenda

- 9:30 Hot Cider, Coffee & Colonial Breads
- 9:40 Introduction- Brief History, What has been done so far & next steps
- 10:00 Walking Tour
- 11:00 Brainstorming Session
- 11:50 Meeting Wrap-up & Questions
- Noon Program Ends

Historic Overview

- Built in the early 1700s for Gershom Frazee, Sr.
- Gershom Frazee, Jr. inherits the home in 1756.
- Damage claims were filed for the house after the Battle of Short Hills on June 26th 1777.
- Elizabeth Frazee lived in the house until 1815.
- Little change occurred until the 1940s when there was significant structural alterations.
- Terry Lou Zoo opened in 1949 and operated until 1994.
- 1998, identified as 1 of 10 most endangered properties in NJ, & acquired by the Township of Scotch Plains.

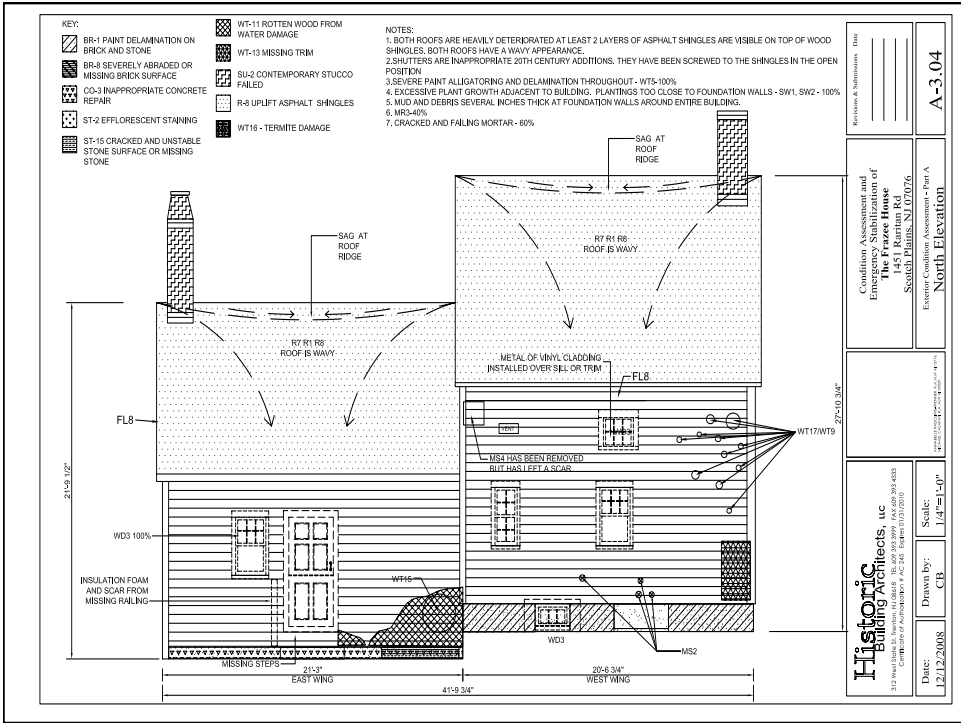


Oldest Known Photograph of the Frazee House, c. 1885

**Condition Assessment & Emergency Structural
Stabilization Report December 2008-09**

- Planning Document
 - Mothballing
 - Emergency Stabilization
 - Dendrochronology- 1762 timber
 - Resistance Drilling
 - Wood Species Identification
- Phased Plan For Repair
 - Realistic Phases of work
 - Cost Estimate by Phase

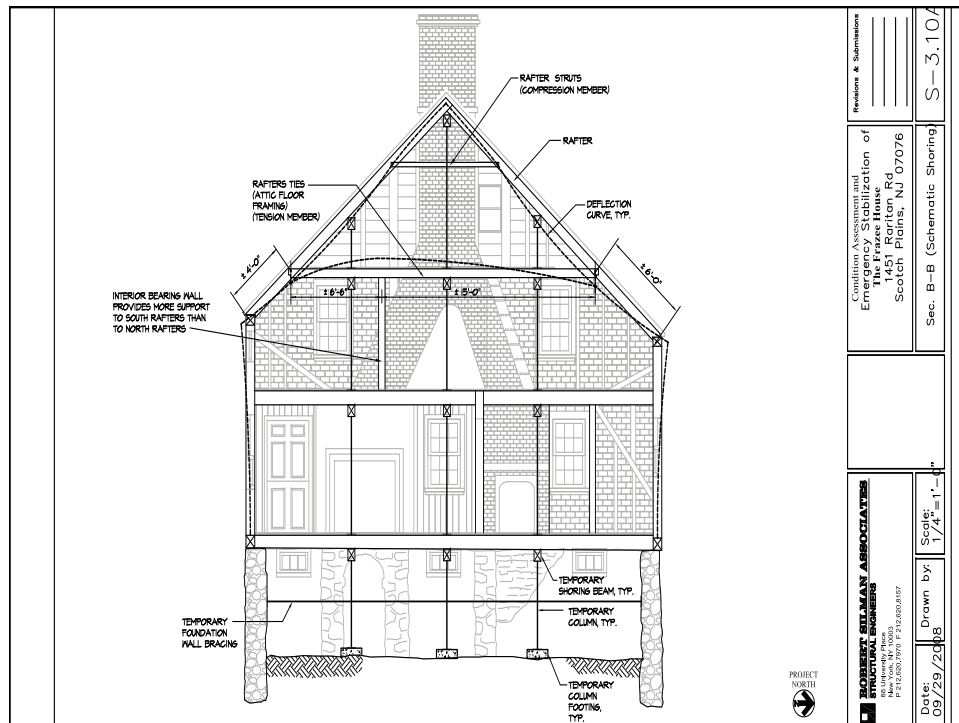




Structural Conditions

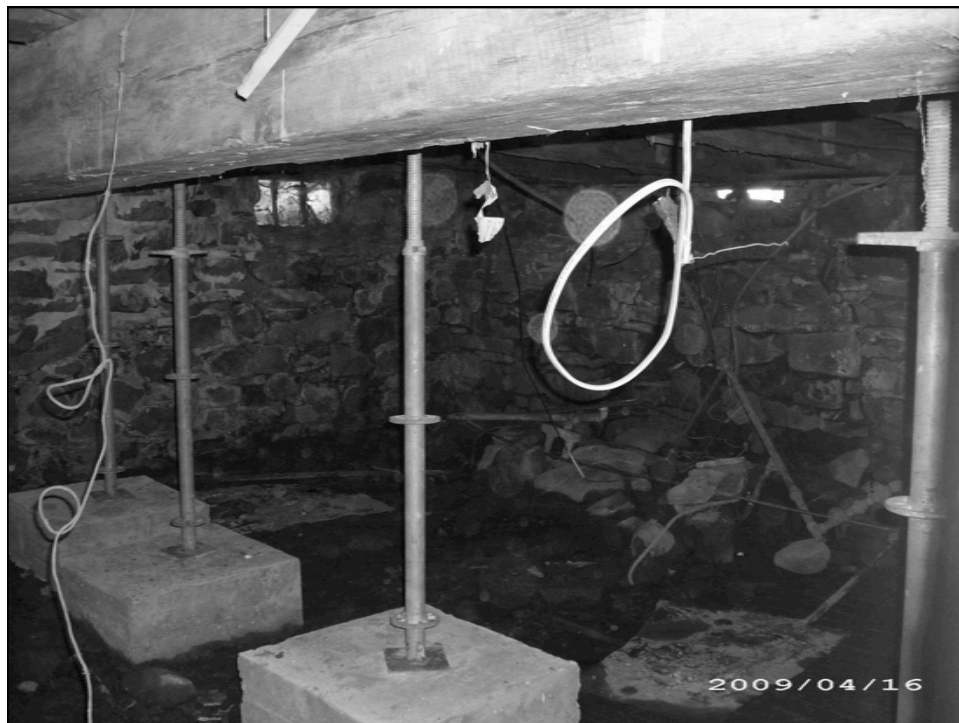
- Termite damage of all types of wood framing (floor, wall, and roof)
- Basement and Foundation Walls failure
- Roof structure deflection and over stress
- Unstable and failing chimneys

Robert Silman Associates, Structural Engineers, NY



Phase I Emergency Structural Stabilization
Completed in May 2009

- Remediate animal and termite infestations
- Close off openings and provide ventilation
- Regrade site and improve drainage
- Relocate sump pump drain to South elevation
- Provide emergency shoring for stairs
- Shore roof and walls internally
- Carefully dismantle chimney







Phase 2 Emergency Work Completed by Rotary Club Volunteers

- Cleanout debris and stored items
- Remove plant growth and trim trees
- Tag, label, and save original building fabric
- Develop maintenance monitoring plan
- Notify authorities that property mothballed
- Inspect and maintain sump pump & install an emergency battery
- Replace all non-grounded electrical wires
- Upgrade temporary lighting

Grants Awarded

- Union County History Grant 2007- \$,3500
- Preserve Union County Grant 2007- \$8,375
- Fanwood Foundation Grant 2007- \$2,500
- Union Trust Grant 2007- \$5,000
- Grassman Foundation Grant 2007- \$5,000
- Union County Community Development Block Block Grant 2007- \$15,000
- Union County Community Development Block Grant 2008- \$17,500
- New Jersey Historic Trust HSM Grant 2007- \$22,824
- Town of Scotch Plains- Maintenance & Support
- Fanwood-Scotch Plains Rotary Club \$10,000+
- New Jersey Historic Trust HSM Grant 2010- \$29,126

Brainstorming Session

- Why a Vision Plan?
- What Value does this Property have to the Community?
- What should the future be here?



The Property

What is special about this site?

What do you dislike about the site?

How can it be used by the community?





Values

Socio Economic/ Political

ECONOMIC Value - Value generated by the heritage source or by the preservation action. Potential sources: tourism, commerce, use and amenities.

FUNCTIONAL Value - Related to the above, either the continuity of the original use or the initiation of a new use.

EDUCATIONAL Value - Potential for cultural tourism and awareness of culture and history and its integration into everyday life.

SOCIAL Value - Related to traditional social activities, grass routes efforts to identify traditions related to the resource.

POLITICAL Value - The resource can be influenced by the intentions of politicians today and in the past.

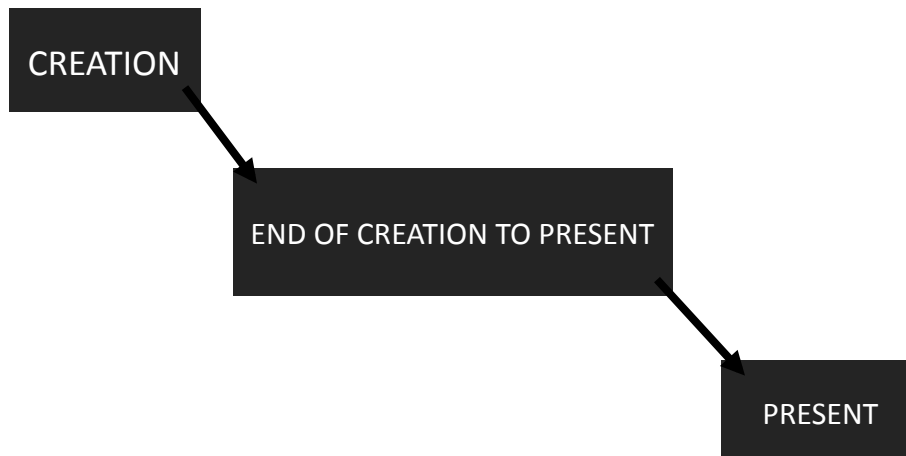
Cultural/ Traditional

IDENTITY Value - Emotional values of society today, such as age, tradition, continuity, legend, spiritual, political and patriotic values.

ARTISTIC OR TECHNICAL Value - Based research by professionals to assess the historic and building fabric value.

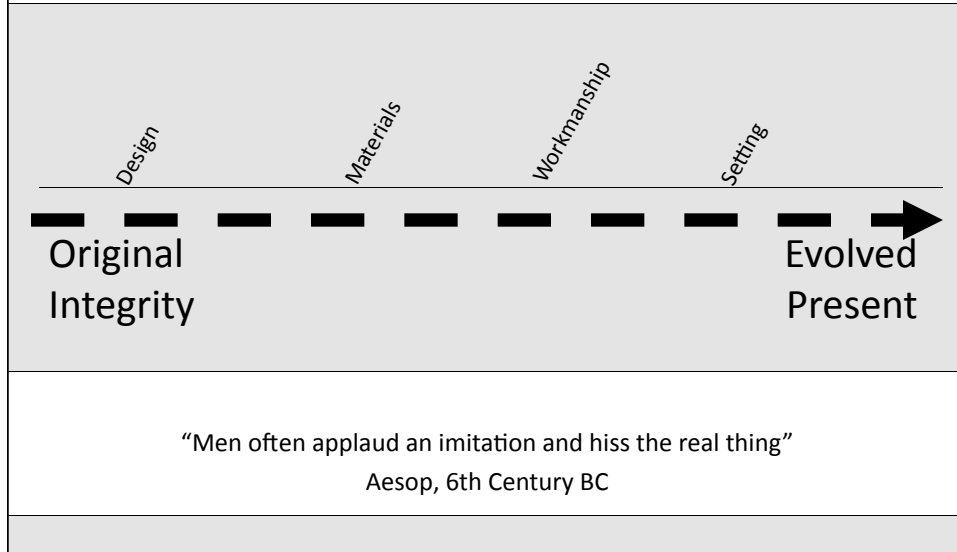
RARITY Value - Relates resource to other constructions of the same type, style, builder, period and region, focusing on its uniqueness.

“Historical Time Line of Change”?



“A heritage resource is unique in relation to the historical time, because it tells a story of change which is non-renewable.”

“The Test of Authenticity” ?



Survey & Save the Date

Please take our online survey at:

www.surveymonkey.com/s/frazeehousesurvey

Save the Date:

Evening Public Workshop –

Public Branding & Image

December 15, 2011 – 6:30pm

Location: Scotch Hills Golf Club

Educational Forum –

Enriching our Local Education

January 5, 2012 – 6:30pm

Location: Scotch Hills Golf Course

Historic Building Architects, LLC

312 West State Street, Trenton, New Jersey 08618 tel 609 393 3999 fax 609 393 4333 www.hba-llc.com

Frazee Landscape Brainstorming Workshop Notes

Covered bridge connection 1st phase - Township owned
Christian Brethren - Church owns 7 acres across street
Curb appeal
Well very dangerous
House moth balled - scaffolding int. support down to grade

Restoration vs. Renovation

Staying within spirit, open to modern requirement

Likes

House being restored - look of the house, not a walk through museum to see arch. First to see construction
House must be attractive for car speed and pedestrians
Garden issue colonial aspect
Community garden
Orchard
Farmer's Market

Destination/Tourism Point
American Battlefield Protection Program
Cross Roads of American Revolution
Possibly remove trees from orchard to relocate to site
Nature meadows
Hiking, biking trails, grasslands, meadow interpretative panels on trail
Integrate school system
Hydrology/ecosystems
Meadow/woodland edge - great Ed. Theme
School down the road to Middle School program
Union County Four Centuries in a weekend
Liberty Trail
Woman's Heritage Trail
Stagecoach
Signage with Township directional

Music Venues

Fundraising events - proceeds towards house restoration
Bridge to attract people
Birdseye view - gazebo
Accent connect between covered bridge and site
Pedestrian access needs to be more clear

Hiking / Walking Trails
Benches
Par course - stations for exercise
No athletic fields or organized sports
Picnic areas
Wedding site

Girl/Boy Scouts - helping
Create plan for fundraising
Put together smaller projects
Pond-created Frank Terry for Zoo for Ponies, early 50s, just a dug hole

Zoo - Frank Terry Palomino Horses Frank/Lou
___ tiger
Sick animals

Could be interpreted on site
Colonial barn - photos in the barn
Smart phone to see images of the zoo
Oral history
Pond-ice skating
Pond ecosystem
Pond may be in the wetlands or within the floodplain

Dislike

House - Real windows
Painted boards for windows
Front unattractive, clean up, not kept up

Curb appeal - more attractive
Simple planting that appropriate to period
Remove front addition
Intrigue / surprise people
Drive around house
Sign telling vision for house/site

Chimneys - structurally unsound
Depends on funding
Ext. first plus infrastructure

Parking revised, grade, not asphalt
K-9: get rid of it
Condition of trees
Treatment of perimeter
Continuous barrier-visual
Remnant features from the zoo
Clean up pits, dead fall, debris

6 acres
2 sites-do house first
Need visual progress for money spent
Council on board to look at 6 acres for the Vision

Need public interest and input
House is large content even if other 5 not done
Phased implementation
Postings on the website
Flyers
High school kids involved
Marketing/communication
Band fundraiser
Frank Thorne- illustrator, book writer

Come grow with us - Jackie

hba:Projects:Frazee House:Vision Plan 2011:FH Workshop Notes 2011 1203.docx

A vision for the
Frazer House and Property

Education Workshop for the Community
Sponsored by



**Fanwood-Scotch
Plains Rotary Club**

January 5th 2012, 6:30PM to 9:00PM

Professional Team Facilitators

Janice Armstrong, Education Consultant

Annabelle Radcliffe-Trenner, Historic Building Architects LLC

Michel Saewert, Historic Building Architects LLC

Agenda

- 6:30 Refreshments
- 6:45 Introduction- Brief History, What has been done so far & next steps
- 7:00 Landscape Workshop Overview
- 7:10 Branding Workshop Overview
- 7:20 Education Brainstorming Session
- 8:45 Meeting Wrap-up & Questions
- 9:00 Program Ends

Historic Overview

- Built in the early 1700s for Gershom Frazee, Sr.
- Gershom Frazee, Jr. inherits the home in 1756.
- Damage claims were filed for the house after the Battle of Short Hills on June 26th 1777.
- Elizabeth Frazee lived in the house until 1815.
- Little change occurred until the 1940s when there was significant structural alterations.
- Terry Lou Zoo opened in 1949 and operated until 1994.
- 1998, identified as 1 of 10 most endangered properties in NJ, & acquired by the Township of Scotch Plains.



Oldest Known Photograph of the Frazee House, c. 1885

**Condition Assessment & Emergency Structural
Stabilization Report December 2008-09**

- Planning Document
 - Mothballing
 - Emergency Stabilization
 - Dendrochronology- 1762 timber
 - Resistance Drilling
 - Wood Species Identification
- Phased Plan For Repair
 - Realistic Phases of work
 - Cost Estimate by Phase

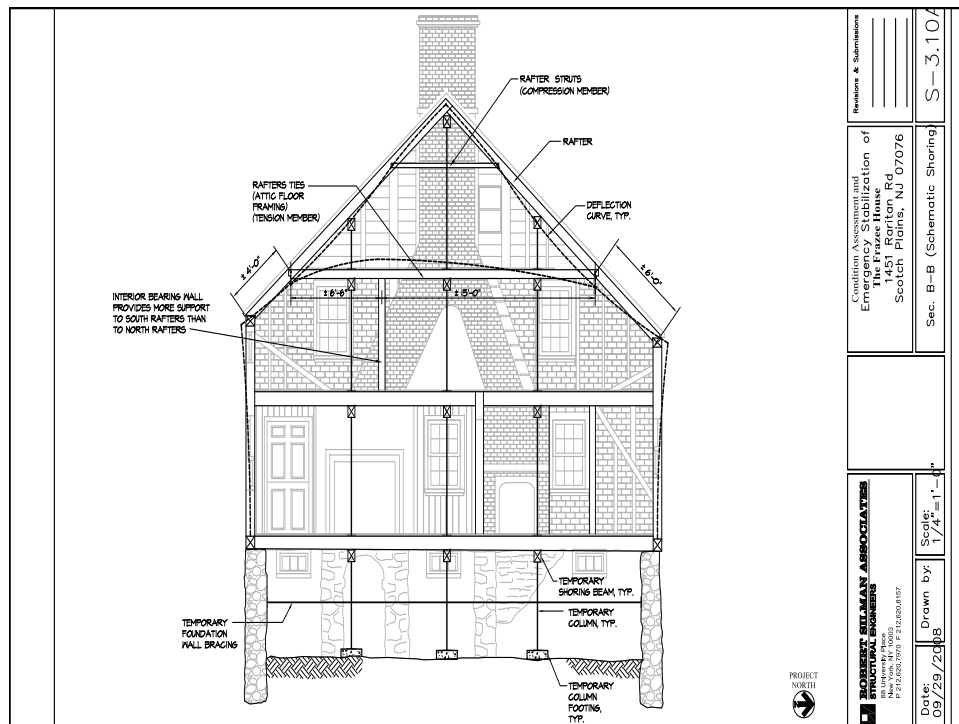




Structural Conditions

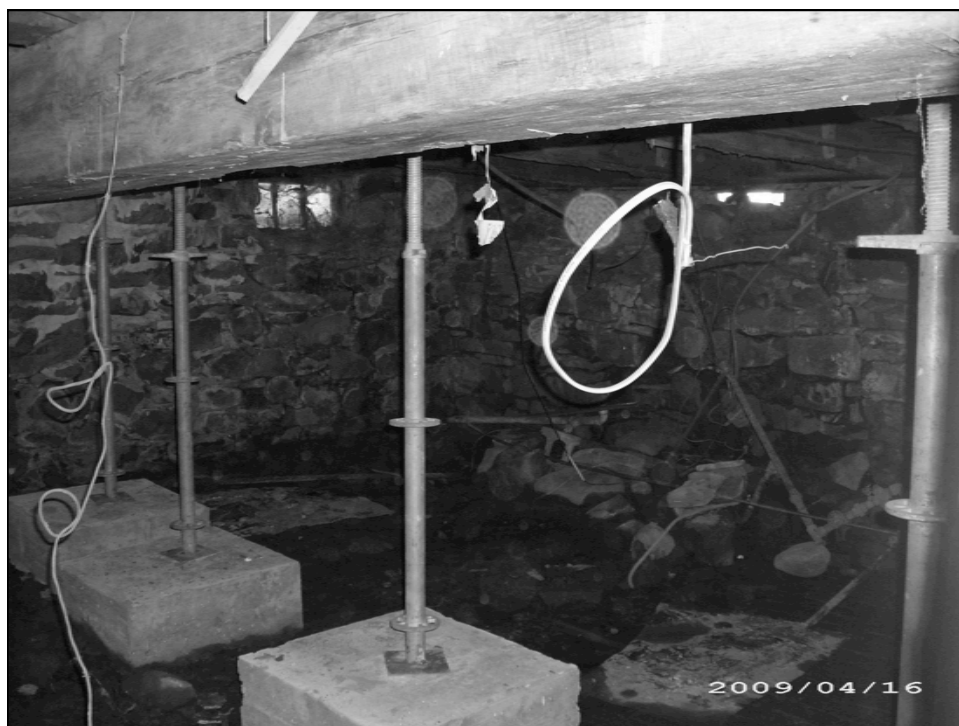
- Termite damage of all types of wood framing (floor, wall, and roof)
- Basement and Foundation Walls failure
- Roof structure deflection and over stress
- Unstable and failing chimneys

Robert Silman Associates, Structural Engineers, NY



Phase I Emergency Structural Stabilization Completed in May 2009

- Remediate animal and termite infestations
- Close off openings and provide ventilation
- Regrade site and improve drainage
- Relocate sump pump drain to South elevation
- Provide emergency shoring for stairs
- Shore roof and walls internally
- Carefully dismantle chimney





Phase 2 Emergency Work Completed by Rotary Club Volunteers

- Cleanout debris and stored items
- Remove plant growth and trim trees
- Tag, label, and save original building fabric
- Develop maintenance monitoring plan
- Notify authorities that property mothballed
- Inspect and maintain sump pump & install an emergency battery
- Replace all non-grounded electrical wires
- Upgrade temporary lighting

Grants Awarded

- Union County History Grant 2007- \$,3500
- Preserve Union County Grant 2007- \$8,375
- Fanwood Foundation Grant 2007- \$2,500
- Union Trust Grant 2007- \$5,000
- Grassman Foundation Grant 2007- \$5,000
- Union County Community Development Block Block Grant 2007- \$15,000
- Union County Community Development Block Grant 2008- \$17,500
- New Jersey Historic Trust HSM Grant 2007- \$22,824
- Town of Scotch Plains- Maintenance & Support
- Fanwood-Scotch Plains Rotary Club \$10,000+
- New Jersey Historic Trust HSM Grant 2010- \$29,126

Brainstorming Session

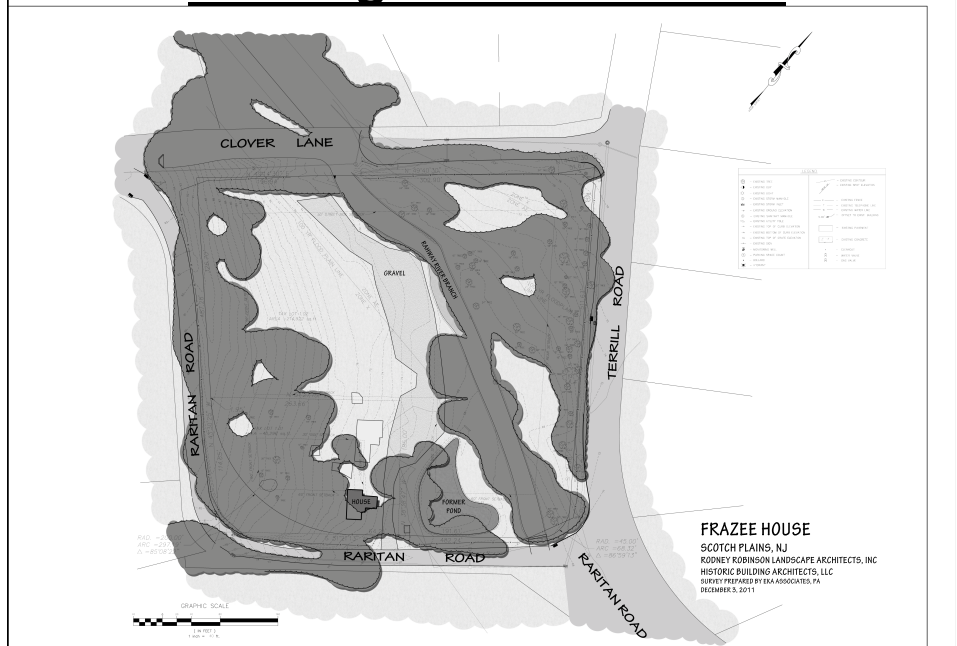
- Why a Vision Plan?
- What Value does this Property have to the Community?
- What should the future be for the house and property?

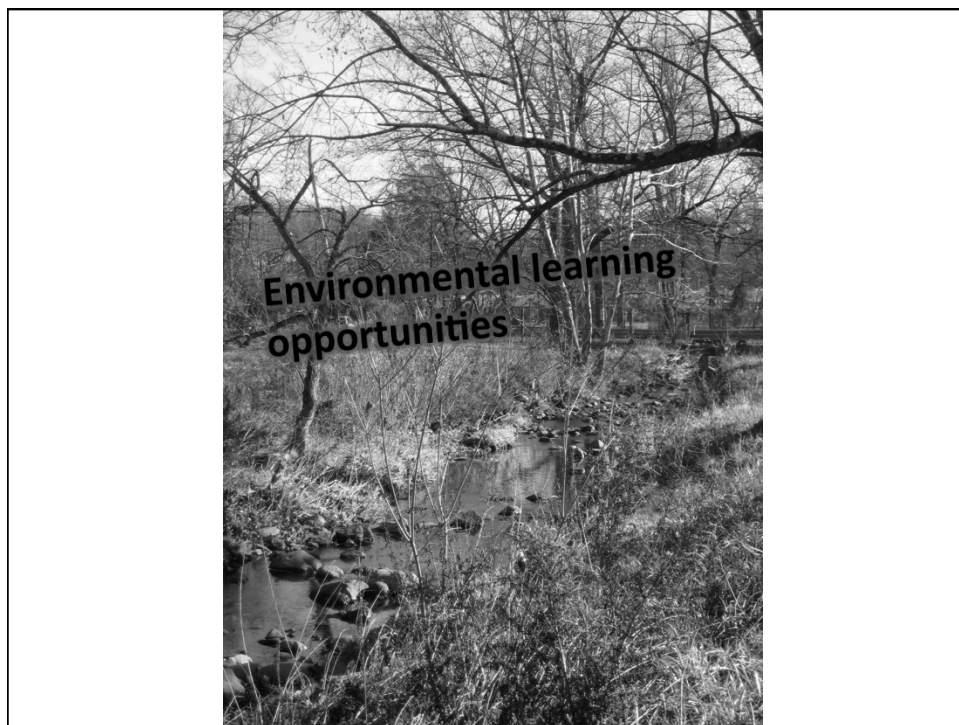
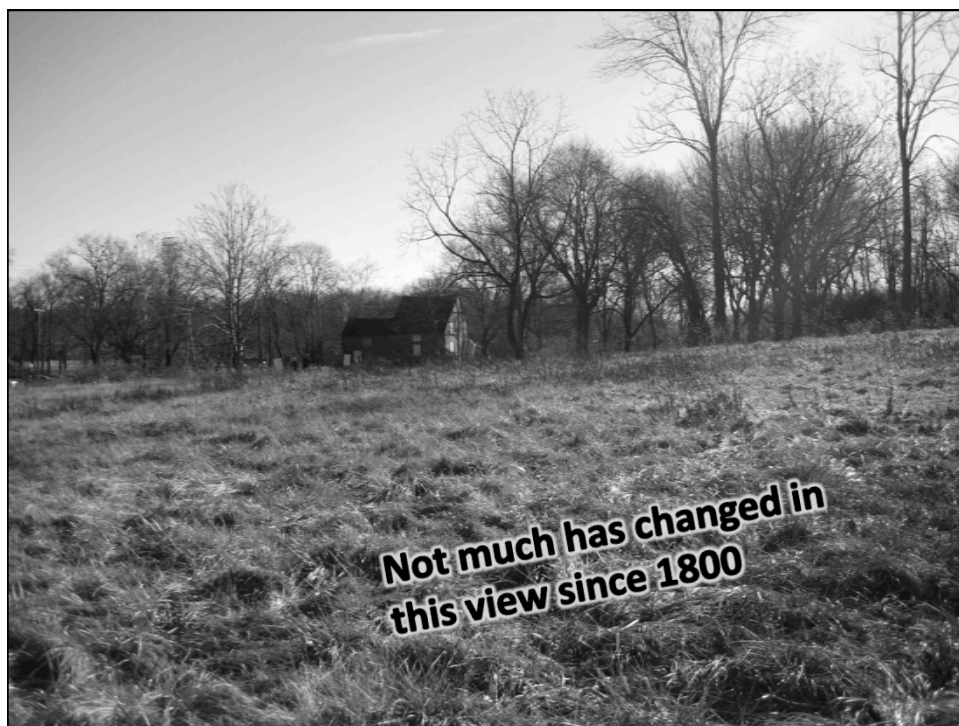


Landscape Session Overview

- Site walking tour completed to observe potential views and access for the site.
- Reviewed potential uses for the site
- Reviewed Likes and Dislikes for the site
- Fundraising Opportunities

Walking Tour and Access







Landscape Session Overview

- Destination/ Tourism Point
- American Battlefield Protection Program
- Cross Roads of American Revolution
- Union County Four Centuries in a weekend
- Liberty trail
- Nature Meadow, Grasslands, Orchard
- Hike, Biking
- Hydrology, ecosystems- School Programs
- Community Garden
- Farmers Market
- Music Venues
- Par Course
- Picnic areas
- Wedding site
- Colonial Garden
- No athletic Fields or organized sports
- House restoration workshops
- House museum

Potential Uses for Site and House

Landscape Session Overview

Likes

- The potential for the house to be restored
- Potential for community and school programs
- Public Park
- History of the site

Dislikes

- Front yard is unattractive- No curb appeal
- House is boarded up
- Front addition on house could be removed
- Pedestrian Access is difficult- No bridge on site to connect the two sides that are bisected by the river

Likes vs. Dislikes for the Site and House

Branding Session Aunt Betty Frazee Home

- “Opportunity” to sell a special experience
- Story popular among school children
- History becomes alive- a real person with a real experience
- Appeals to children and families
- Setting supports experience- great location

Create an Experience

“Brandstorming” Session

- How is the FH&P perceived, its brand image?
- Do you want to change the perception?
- What is the competitive advantage vs. other historic sites?
- What can be done at the FH&P better than any other surrounding property?
- What is the heart and soul of the FH&P?

Clarifying Phase

“Bread & Other Experiences”

- Baking, Artisan Breads, Slow food movement
- Entertainment- Bread and Jazz
- Commercial- Bread shop, farming
- Attract more visitors make special experience people will talk about
- A slogan- a message to attract people to visit
- Betty Frazee day

Positioning

Discussion of programming opportunities









- How has the site been used for education in the past? Should these programs continue and/or be expanded?
- What new programs could be added?
- Who are the target audiences?
- How can the Frazee House partner with other local historic sites/organizations to create programs?
- How will the programs be implemented (advertising, staffing, volunteer training, etc.)?

Education Session

5. What aspect of the site's history most interests you?

	Very Interested	Interested	Somewhat Interested	Not Interested	Response Count
The Aunt Betty Frazee Story	38.3% (54)	28.4% (40)	27.7% (39)	5.7% (8)	141
The Revolutionary War - The Battle of Ash Swamp	45.4% (64)	33.3% (47)	17.0% (24)	4.3% (6)	141
18th Century Carpentry and Joinery & Dutch-American Construction	26.2% (37)	28.4% (40)	31.9% (45)	13.5% (19)	141
The Terry Lou Zoo	20.6% (29)	24.1% (34)	29.8% (42)	25.5% (36)	141
Archeological Artifacts	38.3% (54)	35.5% (50)	21.3% (30)	5.0% (7)	141
The Frazee House Restoration Process	36.2% (51)	29.1% (41)	24.8% (35)	9.9% (14)	141
Other (please specify)					9
answered question					141
skipped question					0

6. What use can the Frazee House offer the community?				
	Great Idea	Good Idea	Bad Idea	Response Count
House Museum	61.0% (86)	29.1% (41)	9.9% (14)	141
Educational Programs (groups of 16 or less)	58.2% (82)	34.0% (48)	7.8% (11)	141
Small meeting space	27.7% (39)	48.9% (69)	23.4% (33)	141
Gallery with changing exhibits (Art, Photography, etc.)	41.8% (59)	41.1% (58)	17.0% (24)	141
The house structure as an exhibit	44.0% (62)	43.3% (61)	12.6% (18)	141
Retail Shop/Store	12.6% (18)	26.2% (37)	61.0% (86)	141
Residential	5.0% (7)	7.1% (10)	87.9% (124)	141
Rental space for small private events.	22.0% (31)	44.7% (63)	33.3% (47)	141
Other (please specify)				10
answered question				141
skipped question				0

8. What kind of programming would you like to see at the Frazee site? Check all that apply:				
		Response Percent	Response Count	
School Field Trips		85.7%	114	
Travelling History Exhibits/Shows for school-age children		76.7%	102	
Adult Lectures & Tours		63.9%	85	
Programs highlighting the Aunt Betty Frazee Story		64.7%	86	
Programs examining the construction and historic preservation of the building		63.9%	85	
Programs about the role of the local community in the Revolutionary War		89.5%	119	
Programs on the nature and wildlife of the site & surroundings		54.1%	72	
Gardening and Horticulture		57.1%	76	
Other (please specify)			13	
answered question			133	
skipped question			8	

What do you remember about a School trip?
In the age of fast technology what appeals & attracts young people to history?
How do students like to relax outside in public places?
Are there adult education and training opportunities?
What do families want to experience when they visit an historic site?

Education Session-The Future

- Potential for cultural tourism and awareness of change
- History and its integration into everyday life.
- Better awareness of the environment
- Emotional values of society today, such as age, tradition..
- Continuity, legend, spiritual, political and patriotic values.

Value Opportunities

Survey

SURVEY CLOSES JANUARY 10th

.....You still have a few days to give us your opinion

Please take our online survey at:

www.surveymonkey.com/s/frazeehousesurvey

YOUR QUESTIONS

Historic Building Architects, LLC

312 West State Street, Trenton, New Jersey 08618 tel 609 393 3999 fax 609 393 4333 www.hba-llc.com

Education Workshop Notes – January 5, 2012

Opportunity to meet neighbors during planning process.

Brainstorming Education Opportunities

Children's Education vs. Adult Education – different requirements/interests

- Historic house care/repair - adult
- Archeology appeals – adult and child interest (digging in dirt)

Live in Caretaker was mentioned as a different form of residential possibility

Students in museum studies programs could care for home/provide services

- “Barter” system – get services for services, no cash exchange.

Colonial Gardens – Landscape Arch depts./horticultural studies

Potential University Programs for involvement:

- Culinary/Pastry
- VoTechnical
- Wood Craft/Carpentry
- Husbandry/Animal Care
- Brewing/Wine

Highschool Opportunities:

“Scotch Plains Day” – Carnival-like w/ vendors & businesses

Archeology & Nature experiences – “Trailside” as an example

Astronomy opportunity – some classes at school now.

Different stations, different themes to hold kid's interest long term.

Lecture vs. Hands-on learning – provide environment for both to occur

Drama/Plays

Summer Programs w/ schools

High school students teaching elementary – develop programs on Frazee

Union County AIT – 5 magnet highschool

Get younger people there: an open area w/ benches, a place to hang out, outdoor concerts, movie nights.

Students responds to radio channel

“That would be cool.”

“It's already there!”

“Oh, is it?”

Highlights the need for increased awareness, unknown and unadvertised.

Zoo history, is there a documentary?

Resident remembers “Bathing a cougar in the stream”

Exhibit of carpentry tools (maybe borrowed for a weekend) – idea of “Weekend Themes”

Need to maximize use of land since house is so small.

Self sufficiency is important

What do families want?

Make feel safe w/ children; they learned something and they had a good time.

Horses, Pony Rides – handplowing races

Essex County Horses – Wachung Reserve, a “Living Museum”

“it needs to be made accessible & safe”




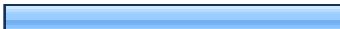

2cents/\$100 recreational maintenance fee in Scotch Plains – may be used to maintain, may be expiring.

Trouble convincing local government – Fear of taxpayer money poured into it without return. Township is “embarrassed” of property.


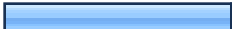


Putting up a new building – host Jazz nights, café, school bands, poetry. “Tea & Toast”

APPENDIX B

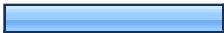

1. Please tell us a little about yourself. Are you a...

		Response Percent	Response Count
Student		5.4%	9
Young Adult		1.8%	3
Adult		26.2%	44
Adult with Children		50.6%	85
Retired		16.1%	27
answered question			168
skipped question			0




2. How near to the Frazee House do you live?

		Response Percent	Response Count
Within 1 mile		22.6%	38
Within 2 miles		33.9%	57
Within 5 miles		30.4%	51
More than 5 miles		13.1%	22
answered question			168
skipped question			0

3. Have you ever attended any programs about the Frazee House or visited the Frazee House site?

		Response Percent	Response Count
Yes		32.7%	55
No		67.3%	113
answered question			168
skipped question			0

4. If so, what type of programs have you attended? Check all that apply:

		Response Percent	Response Count
Children's (school, scouts, etc.)		39.3%	24
Adult (lecture, tour, Rotary event, etc.)		44.3%	27
Other (please specify)		27.9%	17
answered question			61
skipped question			107

5. What aspect of the site's history most interests you?

	Very Interested	Interested	Somewhat Interested	Not Interested	Response Count
The Aunt Betty Frazee Story	36.9% (62)	32.1% (54)	25.6% (43)	5.4% (9)	168
The Revolutionary War - The Battle of Ash Swamp	45.8% (77)	33.3% (56)	17.3% (29)	3.6% (6)	168
18th Century Carpentry and Joinery & Dutch-American Construction	23.8% (40)	31.5% (53)	31.0% (52)	13.7% (23)	168
The Terry Lou Zoo	20.2% (34)	25.0% (42)	30.4% (51)	24.4% (41)	168
Archeological Artifacts	36.9% (62)	35.7% (60)	22.0% (37)	5.4% (9)	168
The Frazee House Restoration Process	36.3% (61)	31.5% (53)	22.6% (38)	9.5% (16)	168
Other (please specify)					10
answered question					168
skipped question					0


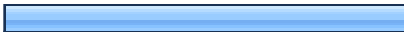
6. What use can the Frazee House offer the community?

	Great Idea	Good Idea	Bad Idea	Response Count
House Museum	60.1% (101)	31.0% (52)	8.9% (15)	168
Educational Programs (groups of 16 or less)	58.3% (98)	35.1% (59)	6.5% (11)	168
Small meeting space	23.8% (40)	51.8% (87)	24.4% (41)	168
Gallery with changing exhibits (Art, Photography, etc.)	39.9% (67)	44.6% (75)	15.5% (26)	168
The house structure as an exhibit	42.3% (71)	45.8% (77)	11.9% (20)	168
Retail Shop/Store	12.5% (21)	25.6% (43)	61.9% (104)	168
Residential	4.8% (8)	8.9% (15)	86.3% (145)	168
Rental space for small private events.	20.2% (34)	45.2% (76)	34.5% (58)	168

Other (please specify) 14

answered question	168
skipped question	0









7. Do you think renaming the house the "Aunt Betty Frazee House" would make it more appealing to potential visitors?

		Response Percent	Response Count
Yes		39.9%	67
No		60.1%	101

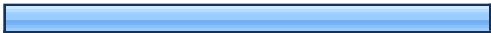



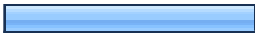

Why do you think this? 83

answered question	168
skipped question	0





8. What kind of programming would you like to see at the Frazee site? Check all that apply:

		Response Percent	Response Count
School Field Trips		85.0%	136
Traveling History Exhibits/Shows for school-age children		74.4%	119
Adult Lectures & Tours		63.1%	101
Programs highlighting the Aunty Betty Frazee Story		65.0%	104
Programs examining the construction and historic preservation of the building		61.3%	98
Programs about the role of the local community in the Revolutionary War		86.3%	138
Programs on the nature and wildlife of the site & surroundings		52.5%	84
Gardening and Horticulture		55.0%	88
	Other (please specify)		14
answered question			160
skipped question			8

9. Which of the following passive recreational activities would you like to see at the Frazee site? Check all that apply:

		Response Percent	Response Count
Hiking		73.0%	111
Biking		43.4%	66
Fishing (if possible)		32.2%	49
Picnicking		73.0%	111
Frisbee, bocce, catch, or other non-league games		37.5%	57
Gardening		69.7%	106
Other (please specify)			20
		answered question	152
		skipped question	16

10. How much public access would you like to have?

		Response Percent	Response Count
6-acre property open during daylight hours (unsupervised)		38.7%	65
6-acre property secured with fencing and open for limited hours with supervision		32.7%	55
The Frazee House open for special events and school visits only		8.9%	15
The Frazee House open regularly for limited time, such as 4 hours every weekend		19.6%	33
answered question			168
skipped question			0

11. Indicate how important you believe each of the following items are for the future of the Frazee House and 6-acre site:

	Very Important	Somewhat Important	Not Important	Response Count
Preservation of the land	85.7% (144)	11.3% (19)	3.0% (5)	168
Preservation of the House	80.4% (135)	14.3% (24)	5.4% (9)	168
Improved public facilities (parking, restrooms, ADA access)	44.0% (74)	45.2% (76)	10.7% (18)	168
Increased public enjoyment	66.7% (112)	26.8% (45)	6.5% (11)	168
Maintenance of the property	78.0% (131)	18.5% (31)	3.6% (6)	168
answered question				168
skipped question				0

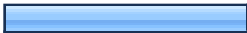



12. Please tell us in a few words what you LIKE about the house and property:

	Response Count
	91
answered question	91
skipped question	77

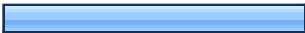

13. Please tell us in a few words what you DISLIKE about the house and property:

	Response Count
	71
answered question	71
skipped question	97

14. Would you be willing to give a donation to help support the restoration and maintenance of the house and property?

		Response Percent	Response Count
No		36.3%	61
Under \$100		47.0%	79
Between \$100 and \$500		13.1%	22
Over \$500		3.6%	6
	answered question		168
	skipped question		0

15. Would you be willing to volunteer your time to help support the house and property restoration and maintenance?

		Response Percent	Response Count
Yes		45.2%	76
No		54.8%	92

If yes, please describe how you would be willing to help:

55

answered question	168
skipped question	0

16. If you would like to receive additional information about the Frazee House or be contacted for future volunteer opportunities, please provide us with your contact information. This question is optional.

		Response Percent	Response Count
Name	<div><div></div></div>	94.2%	49
E-mail	<div><div></div></div>	96.2%	50
Phone	<div><div></div></div>	46.2%	24
answered question			52
skipped question			116

Q4. If so, what type of programs have you attended? Check all that apply:

1	I am a member of the Fanwood-Scotch Plains Rotary Club	Jan 20, 2012 4:02 AM
2	I gave a lecture about the house to Fanwood-Scotch Plains Rotary Club	Jan 13, 2012 12:36 PM
3	frequented the zoo--at least one son would lead ponies for children rides	Jan 9, 2012 2:40 PM
4	I was a long time friend of Frank and Lou Terry owners of the Terrylou Zoo	Dec 20, 2011 2:04 PM
5	historical society	Dec 14, 2011 3:49 AM
6	Radio tour	Dec 11, 2011 4:14 PM
7	Private Tour with board member	Dec 11, 2011 9:14 AM
8	Only the Zoo	Dec 6, 2011 8:44 AM
9	zoo	Dec 6, 2011 6:57 AM
10	n/a	Dec 6, 2011 6:00 AM
11	walk thru	Dec 6, 2011 5:00 AM
12	terry lou zoo	Dec 6, 2011 4:51 AM
13	Personal interest in historical preservation led to visiting site and following project.	Dec 6, 2011 4:03 AM
14	no organized event	Dec 6, 2011 4:01 AM
15	Volunteer for work projects	Dec 5, 2011 8:37 AM
16	Rotary Club Visit	Dec 5, 2011 8:32 AM
17	Zoo	Dec 5, 2011 8:20 AM

Q5. What aspect of the site's history most interests you?

1	Gershom Frazee, Carpenter- Joiner who built house, Aunt Betty's husband.	Jan 13, 2012 12:36 PM
2	N/A	Jan 4, 2012 8:25 PM
3	xxx	Dec 29, 2011 6:36 AM
4	Preservation of the few historically significant buildings left in Scotch Plains'	Dec 20, 2011 2:04 PM
5	genealogical- I'm related to the Frazees	Dec 9, 2011 7:34 AM
6	Historic interpretation of the life and times of the Frazees	Dec 9, 2011 6:01 AM
7	I do not know anything about the Frazee House.	Dec 6, 2011 6:00 AM
8	Site is original homestead of early resident/business persons.	Dec 6, 2011 4:03 AM
9	landscaping of property to match the 18th century house	Dec 6, 2011 2:04 AM
10	Development of the entire 6 acres.	Dec 5, 2011 8:32 AM

Q6. What use can the Frazee House offer the community?

1	House has little historic value and should be removed to allow for a park or community center.	Jan 25, 2012 9:59 AM
2	Living History Museum in conjunction with a University or Trade School	Jan 13, 2012 12:36 PM
3	Festivals i.e., Art	Jan 6, 2012 9:19 AM
4	Residential - Might have a live-in caretaker	Jan 6, 2012 9:12 AM
5	Keep focused on historical significance	Jan 2, 2012 10:01 AM
6	xxx	Dec 29, 2011 6:36 AM
7	Concession farm for organic local produce for area restaurants?	Dec 11, 2011 9:14 AM
8	Take the educational program concept and expand it/ combine it with the museum. Consider having a historical site where schools and tourists can visit, see folks dressed in the style of that century, buy bread, perhaps view the type of work done on the farm, etc. See ideas from the Staten Island Historic Richmond Town http://historicrichmondtonetown.org/home	Dec 7, 2011 7:15 AM
9	small park with benches to relax at and enjoy scenery	Dec 6, 2011 10:52 AM
10	Something that doesn't cost taxpayers money	Dec 6, 2011 7:39 AM
11	*Retail in ref to Historical souvenir/info	Dec 6, 2011 7:02 AM
12	Site, house and artifacts, collectively deliver our Revolutionary history in a vibrant manner to current population.	Dec 6, 2011 4:03 AM
13	I would hate to see more residential houses, we have already had developers tear down very old homes and put up mansions.	Dec 6, 2011 3:49 AM
14	Community Garden/Orchard	Dec 5, 2011 8:37 AM

Q7. Do you think renaming the house the "Aunt Betty Frazee House" would make it more appealing to potential visitors?

1	Too long - Frazee House sounds better.	Jan 31, 2012 2:00 PM
2	In my view, this is an historical site primarily, and I think the name of the house should reflect that history.	Jan 30, 2012 5:26 PM
3	It may sound "too cute" that way....just my opinion.	Jan 30, 2012 4:50 PM
4	She is nobody's Aunt	Jan 25, 2012 9:59 AM
5	It's more specific and welcoming.	Jan 25, 2012 6:56 AM
6	It warms it up. Makes it more human. Brings it to life. Makes it more personal. Gives it a story.	Jan 20, 2012 4:02 AM
7	Frazee House is more all-encompassing. Elizabeth (Aunt Betty)'s husband Gershom Frazee was equally important. They were feeding troops during the Battle of Short Hills June 26, 1777 when his carpenter tools and most of their livestock and possessions were stolen by British and Hessians.	Jan 13, 2012 12:36 PM
8	it coincides with the branding of the story and the reason for the property	Jan 7, 2012 7:11 PM
9	Preserve the idea of its history. Also ask Who is She?	Jan 6, 2012 9:19 AM
10	Sounds more personal and clearly identified.	Jan 6, 2012 9:12 AM
11	It makes the person remember a remarkable woman.	Jan 5, 2012 7:53 PM
12	It will generate some interest, like other named houses in the area - Cannon Ball House - even the Stage House has some history.	Jan 4, 2012 8:25 PM
13	It makes it sound more cozy and inviting to families and schools	Jan 1, 2012 4:54 PM
14	It is an interesting story that should be told	Dec 29, 2011 6:36 AM
15	Both Frazee's are part of the history of the house.	Dec 27, 2011 1:01 PM
16	Makes it more personable, and will make one ask who was aunt Betty as oppose to What is the Franzee House?	Dec 21, 2011 8:51 AM
17	Whatever it takes to preserve the building.	Dec 20, 2011 2:04 PM
18	Young people do not care, or have time, to visit their living relatives. Why would they care about someone else's "Aunt Betty"?	Dec 19, 2011 3:48 AM
19	I think the name is too long.	Dec 14, 2011 2:06 PM
20	Too colloquial	Dec 14, 2011 6:30 AM
21	it would confuse people to change now	Dec 14, 2011 3:49 AM
22	Too long	Dec 13, 2011 7:06 PM
23	I do not see the need to do this.	Dec 13, 2011 5:30 PM

Q7. Do you think renaming the house the "Aunt Betty Frazee House" would make it more appealing to potential visitors?

24	it links the historical character of the story	Dec 13, 2011 1:57 PM
25	I would just do the Betty Frazee House.	Dec 11, 2011 3:51 PM
26	Sounds a bit too folksy.	Dec 11, 2011 9:14 AM
27	to make it more clear what it is. Very few people know the Frazee story.	Dec 10, 2011 12:45 PM
28	I'm not sure what it is called now. However, renaming it "Aunt Betty.." implies a story and gets people curious to find out more.	Dec 10, 2011 12:15 PM
29	too long. maybe AB Frazee House would be better	Dec 10, 2011 9:27 AM
30	The house and the history of the people who lived there are more than an anecdote about one person.	Dec 9, 2011 7:34 AM
31	The majority of people in and near Union County have no idea about "Aunt Betty Frazee" and her contributions.	Dec 9, 2011 7:17 AM
32	She was a heroine, and young women should know her story. That name would highlight her role in the Revolution.	Dec 9, 2011 6:01 AM
33	The wording of "Aunt Betty" seems too colloquial and takes away from the significance of the role of the house and its resident during the Battle of Ash Swamp.	Dec 8, 2011 3:42 PM
34	The house is a historic site and with the explanation of why it is named for Aunt Betty Frazee, it becomes clear.	Dec 8, 2011 11:18 AM
35	Leave it at Frazee House is best	Dec 8, 2011 9:08 AM
36	That needs a lot of thought. Although Aunt Betty's story is very important, the story is part of local revolutionary history. She needs to be closely linked with the house. Although Mount Vernon is better known, it's still Mount Vernon and not GW's House. Oswald Cannon Ball House, Drake House, Miller-Cory House, Dr. Robinson Plantation, Caldwell Parsonage. A marketing-study might help.	Dec 8, 2011 7:32 AM
37	The name gives it personality and affection.	Dec 7, 2011 8:16 PM
38	In a local book on the Battle of the Short Hills, which I bought at the Osborn House, the author points out that the first time this story appears in any historical record was the 19th century 'History of Union County'. The author believes the story has no basis in fact and is a Victorian embellishment.	Dec 7, 2011 1:02 PM
39	Why change? We don't need a politician's or a corporation's name attached to it!	Dec 7, 2011 9:04 AM
40	too long.	Dec 6, 2011 7:08 PM
41	The story has some local appeal and sets it apart from other historical houses in the area. It might peak some people's interest. Don't feel strongly enough, though, if there's a large expense involved.	Dec 6, 2011 6:34 PM

Q7. Do you think renaming the house the "Aunt Betty Frazee House" would make it more appealing to potential visitors?

42	Silly. The people who reserve the history can explain it all.	Dec 6, 2011 5:12 PM
43	This is the first that I've heard anything about the Frazee House, and I've been a resident for 22 years. Going on my initial reaction, I think that "Aunt Betty" personalizes the place immediately and ties it to a real person that I'd like to know more about.	Dec 6, 2011 4:47 PM
44	It makes the house more interesting and appealing to personalize it. The new name would allude to the history of the location.	Dec 6, 2011 4:19 PM
45	unnecessary to change the name	Dec 6, 2011 3:25 PM
46	That ties the place to the Betty Frazee story only. Other aspects of the property and area would seem out of place.	Dec 6, 2011 2:47 PM
47	too long and it will just be called Frazee house anyway.	Dec 6, 2011 12:44 PM
48	Don't name it for someone who actions are not historic but are more fiction.	Dec 6, 2011 11:46 AM
49	I always thought of it as the site of the Terry Lou Zoo. Don't know anything about the Frazees. (Have not been to the place in over 20 years.)	Dec 6, 2011 10:52 AM
50	more personal, generate more curiosity	Dec 6, 2011 10:39 AM
51	Honestly, most people don't know the name either way and adding an "Aunt Betty" to it sounds like its a house for home cooking..	Dec 6, 2011 10:14 AM
52	name is irrelevant	Dec 6, 2011 10:07 AM
53	More of a personal home feel.	Dec 6, 2011 9:33 AM
54	No reason	Dec 6, 2011 8:44 AM
55	Puts its personal stamp out front, indicating an interesting story is attached to the property.	Dec 6, 2011 7:51 AM
56	Not known entity	Dec 6, 2011 7:39 AM
57	Because it is a homey sounding name that gives the impression that there could be a story behind it. That could pique people's interest which might compel them to find out more about the place.	Dec 6, 2011 7:32 AM
58	not many know who "Aunt Betty" was.	Dec 6, 2011 7:02 AM
59	no opinion	Dec 6, 2011 6:57 AM
60	a name with The Revolutionary War in it would be more informative and attractive to interested visitors, such as Revolutionary War Farmstead	Dec 6, 2011 6:39 AM
61	won't make a difference	Dec 6, 2011 6:00 AM
62	sounds more charming	Dec 6, 2011 5:31 AM

Q7. Do you think renaming the house the "Aunt Betty Frazee House" would make it more appealing to potential visitors?

63	it is a "story"	Dec 6, 2011 5:00 AM
64	Don't know	Dec 6, 2011 4:51 AM
65	Add "Historic" to the name	Dec 6, 2011 4:47 AM
66	It's a part of American and Scotch Plains history and people will visit because of that not a different name.	Dec 6, 2011 4:30 AM
67	It begs the question, Who is Aunt Betty?	Dec 6, 2011 4:28 AM
68	This location has actual, viable and verifiable information associated with it. To digress into the 'cutsie' mascot style marketing by using 'auntie' and the equal-opportunity-in-war-time-hero status of her womanhood, I think, reduces the impact and moves otherwise exciting history into the realm of 'homogenized, synthesized and sanitized account of our heroic, revolutionary times.	Dec 6, 2011 4:03 AM
69	It is something unique to Scotch Plains	Dec 6, 2011 4:02 AM
70	Makes it sound like a modern day commercial establishment, not an historic building.	Dec 6, 2011 3:55 AM
71	I think personalizing it like this really makes it inviting to want to go and visit.	Dec 6, 2011 3:49 AM
72	it personalizes it	Dec 6, 2011 3:41 AM
73	i feel it would cause confusion because residents do not recognize that name as much.	Dec 6, 2011 3:16 AM
74	I don't think it would make a difference.	Dec 6, 2011 2:04 AM
75	Unless you already know the story, the proposed name offers no more appeal than just the Frazee House.	Dec 6, 2011 2:04 AM
76	Who the heck is Aunt Betty Frazee????	Dec 5, 2011 9:06 PM
77	Sorry to say but although the Frazee story is somewhat appealing, the name or this name change will not attract new visitors.	Dec 5, 2011 9:02 PM
78	I don't really think adding the words "Aunt Betty" to it makes a difference.	Dec 5, 2011 8:38 PM
79	Makes it more personal	Dec 5, 2011 8:59 AM
80	Tie to existing programs in 3rd & 5th Grade SPF School System	Dec 5, 2011 8:37 AM
81	It connects to the history	Dec 5, 2011 8:24 AM
82	Personalize-Make her equal to molly Pitcher & Barbara Fritchey (sp)	Dec 5, 2011 8:20 AM
83	too long	Dec 5, 2011 7:40 AM

Q8. What kind of programming would you like to see at the Frazee site? Check all that apply:

1	Interpretation and exhibits on carpentry and joinery of house and furniture.	Jan 13, 2012 12:36 PM
2	All are good ideas that will not overwhelm the local neighbors with traffic & noise. Small groups with scheduled visits would probably work well	Jan 4, 2012 8:25 PM
3	I think there is an opportunity to develop the rest of the site to offer more to visitors.	Dec 14, 2011 2:06 PM
4	Nothing - sell land to a builder or tun it into a park	Dec 14, 2011 7:00 AM
5	I don't see why there can't be an eclectic mix of programming to appeal to different people.	Dec 10, 2011 12:15 PM
6	Expand on knowledge of the people who lived in this house and how they contributed to the community- collectively the people in this community lived through so much history and interpreting the house through its whole history, not just Betty, might support your mission statement	Dec 9, 2011 7:34 AM
7	Take the educational program concept and expand it/ combine it with the museum. Consider having a historical site where schools and tourist can visit, see folks dressed in the style of that century, buy bread, perhaps view the type of work done on the farm, etc. See ideas from the Staten Island Historic Richmond Town http://historicrichmondtown.org/home	Dec 7, 2011 7:15 AM
8	all sound fine if there are people willing to sponsor it. While the construction and historic preservation is interesting to me, I don't know how many people would be intersted in a program--an exhibit and video might cover it.	Dec 6, 2011 6:34 PM
9	Activities which do not generate a lot of traffic and annoy private homeowners in the area.	Dec 6, 2011 10:52 AM
10	should not waste money on it.	Dec 6, 2011 10:07 AM
11	I firmly believe that the greatest project to be undertaken as an adjunct to restoration of the residence would be to 'naturalize' the grounds, returning them to conditions as they were present when the first Europeans trod the soil.	Dec 6, 2011 4:03 AM
12	I think a small community garden on the property would be fantastic	Dec 6, 2011 3:49 AM
13	Gardens need to be designed in an historically correct manner.	Dec 6, 2011 2:04 AM
14	16 is too small for class trips	Dec 5, 2011 8:37 PM

Q9. Which of the following passive recreational activities would you like to see at the Frazee site? Check all that apply:

1	Animal Husbandry - Heirloom breeds petting zoo like Terrylou without Tigers.	Jan 13, 2012 12:36 PM
2	community garden	Jan 9, 2012 2:40 PM
3	to much to list here the potential in almost endless	Jan 7, 2012 7:11 PM
4	Not sure it's big enough for hiking or biking. Gardening will have to contend with deer & other animals	Jan 4, 2012 8:25 PM
5	site should be family oriented	Dec 21, 2011 8:51 AM
6	An opportunity for a truly passive park where one might enjoy the outdoors while preserving the bucolic setting against the encroachment of suburbia.	Dec 20, 2011 2:04 PM
7	petting zoo	Dec 19, 2011 3:48 AM
8	Sell it already or turn it into a park	Dec 14, 2011 7:00 AM
9	I don't know enough about the property to comment further, but all of these might be appropriate	Dec 9, 2011 7:34 AM
10	These should be integrated into the overall concept, not done as independent ideas. Integrate into the theme of the times- fishing if that was part of the living at that time and do it the way they did it, etc; maybe hiking to see how the farmers got around the farm,etc	Dec 7, 2011 7:15 AM
11	It would be a great place for a community garden. What happened to that idea? Too small for biking and hiking	Dec 6, 2011 6:34 PM
12	I didnt realize the site was that big?	Dec 6, 2011 10:14 AM
13	communal gardens, where a small plot could be rented for the season	Dec 6, 2011 7:51 AM
14	Seems too small for hiking or biking, but as a place to stroll around or sit and relax I think it's ideal.	Dec 6, 2011 7:32 AM
15	Having a sustainable SPF community garden	Dec 6, 2011 6:45 AM
16	not sure	Dec 6, 2011 5:31 AM
17	The most exciting possible prospect is that of restoring the vegetation, grasses and trees to only those of verifiable, original local growth as of the time of these explorations and settlements.	Dec 6, 2011 4:03 AM
18	Walking (Nature Walks)	Dec 5, 2011 8:37 AM
19	Community Gardens on the site a great idea!	Dec 5, 2011 8:32 AM
20	Bikes - Erosion	Dec 5, 2011 8:20 AM

Q12. Please tell us in a few words what you LIKE about the house and property:

1	I feel the house will look beautiful once it's properly restored.	Jan 31, 2012 2:00 PM
2	As the saying goes, "Those who don't know history are doomed to repeat it." We are living in a time where history is sorely neglected in our educational system and I support preservation of structures that teach children and adults about our past. Despite our rich history in this part of NJ, there are precious few historical sites. We need places like the Frazee house to be preserved.	Jan 30, 2012 5:26 PM
3	It's historic significance re: the revolutionary war; it's the only potential public passive park area on the south side of town!	Jan 30, 2012 4:50 PM
4	It would be a great dog park if it was completely fenced. The property could support a parking lot, restrooms, playground, picnic benches, bocce court, 2 bridges with a walkway and gardens.	Jan 25, 2012 9:59 AM
5	I like the historical part. I like the house. It's nice to have an area that doesn't have a McMansion on a teeny piece of property for a change.	Jan 25, 2012 6:56 AM
6	I like the large size of the property. It would be a shame to lose one of the last large open spaces in town.	Jan 23, 2012 10:17 AM
7	I like the personal piece that includes Aunt Betty. The story of the battle and baking the bread. The property is really beautiful and could really depict a homestead from the Revolutionary War time. This could be a great opportunity for the community to really feel what it was like to live here during such an important time in our history.	Jan 20, 2012 4:02 AM
8	location	Jan 17, 2012 10:34 AM
9	The house is a significant historic resource in Union County tied to the Battle of Short Hills in the Revolution. It is in a rare, unspoiled landscape still reflecting the early period. It should be open to the public with active educational programs recalling and interpreting its architectural, historical importance in the following areas: Geographic and Native American History (Ash Swamp/Short Hills) Anglo-Dutch heritage, carpentry, joinery, 18th century food preparation, baking, animal husbandry, agriculture including animals, crops and orchards. In recent years, I have seen deer roaming the place, another attraction. HP restroom facilities should be outside the house in a rebuilt outbuilding.	Jan 13, 2012 12:36 PM
10	properly maintained open space in park like setting	Jan 9, 2012 2:40 PM
11	its location, and historical value!!!!!!!!!!!!!!	Jan 7, 2012 7:11 PM
12	A historical landmark that should be preserved.	Jan 6, 2012 9:22 AM
13	The opportunity to have a rural outpost nearby, can be enjoyed at little expense.	Jan 6, 2012 9:12 AM
14	The historical value.	Jan 5, 2012 9:29 PM
15	The brickwork.	Jan 5, 2012 6:43 PM
16	Personally - I'm very interested in the American Revolutionary & Colonial eara - and encourage anything we can do to preserve it. Therefore, I would like to see the house preserved and used to bring out the history - if possible. vs. the	Jan 4, 2012 8:25 PM

Q12. Please tell us in a few words what you LIKE about the house and property:

suggestion of a replica replacing it. For the property - SPF has little open space not dedicated to ball fields. Both town host downtown events - concerts on the green, movie night at La Grande Fanny Wood Day & Scotch Plains Day - all are important to bringing business to the down-town areas - but this would make a nice alternative on the South Side of town - for some events - open picnicing - there are no parks on the Southside for this one has to go to Brookside or Jerseyland for events - all nice this could add to it. Concerts, Art-fairs - open air events - who knows tastes of the town - endless uses but to start - you need parking, access to facilities/electric, and maintenance. In that order - if you open parking and set-up even portable temporary facilities - and maintain the lawn area - people can start to use it - that will generate interest in the house right there - events can be structured to call attention to the house - and help the fund raising effort. Start by using the parkland - then get the local businesses to sponsor events there - and build up interest.

17	A place to showcse the role of the area in the Revolutionary War	Jan 2, 2012 10:01 AM
18	I live VERY close by and know NOTHING about it (going on 2 years).	Jan 1, 2012 4:54 PM
19	It is a historical site with much we can learn from it.	Dec 29, 2011 6:36 AM
20	Zoo was great. Should be made into a community park. No basketball or tennis courts. Leave as untouched as possible.	Dec 27, 2011 1:01 PM
21	It's local and can become a gorgeous recreational spot for public use. Rt now is just sits there useless.	Dec 21, 2011 8:51 AM
22	It is a property that is basically unchanged through the decades and should be preserved. To many of our historical sites have been lost to the scourge of developers and every effort should be expended to preserve this historical gem. In the age of the internet when our schools have lost the emphasis on our own history the coming generations need an example of their origins and the simpler way of life. It would be a tragedy to lose this opportunity.	Dec 20, 2011 2:04 PM
23	I think history needs some respect.	Dec 19, 2011 3:48 AM
24	It's been a unique part of Scotch Plains during all of the 54 years that I've lived here. My nephew's baby clothes were worn by "Mike" the chimp. So many of our young people worked part time at the zoo and probably have many fond memories. More important, the historical aspects of the property are something we can all take pride in.	Dec 15, 2011 2:13 PM
25	I think the Frazee house offers a great opportunity for the community to educate the public on the history of the area. It could also offer other options to visitors if the site was developed more, ie cafe, shops, etc. This side of town could use something for people to do and I think that building on the history of the town/area could be the starting point.	Dec 14, 2011 2:06 PM
26	I do enjoy history; however, I do not believe the house should be saved. The history can be preserved without preserving the building. I feel a better homage would be to erect some time of monument/statue or landmark about the significance of the building/property and of Betty Frazee. Have a walking path or bike path, benches, allow people to walk their dogs...perhaps have a garden	Dec 14, 2011 7:13 AM

Q12. Please tell us in a few words what you LIKE about the house and property:

area. There could be information plaques (bronze set into large rocks or something) in a couple of corners/areas of the property for educational purposes. this could make for a nice "discovery" for those strolling through, or playing frisbee, or walking their dog. I am happy to see that it will not be used for Condos. I like that it might be kept somewhat natural. I feel that the trees and shrubs near the road (Raritan curve) should be cut back several feet and the roadway should be widened to help with safety issues.

27	6 acres could fetch the town a good amount of money	Dec 14, 2011 7:00 AM
28	Excellent piece of Scotch Plains history	Dec 14, 2011 6:30 AM
29	Nice historic green space	Dec 13, 2011 7:06 PM
30	It's historical significance and our pride in our area.	Dec 13, 2011 5:30 PM
31	its six acres for recreation, something that is sorely missing in Union County,	Dec 13, 2011 1:57 PM
32	it has an interesting story to tell from start to finish (that is, from its construction date up to today)	Dec 11, 2011 3:51 PM
33	Local Connection to American Revolution stories.	Dec 11, 2011 9:14 AM
34	the historical aspect and potential green space	Dec 10, 2011 12:45 PM
35	I love the history related to the Battle of Ash Swamp, the story of Betty Frazee, etc. and found that many of the locals do not know anything about it. It is also a beautiful piece of property. There are very few houses of this age left. Our history should be preserved and celebrated. It is also an opportunity to let residents contribute to its restoration and beauty. For example, the lovely little colonial garden at the Cannonball House can be done here by a local gardening club.	Dec 10, 2011 12:15 PM
36	historic structures with stories are rare and need to be preserved, it is located in Scotch Plains	Dec 10, 2011 9:27 AM
37	It would be nice if the house could be restored and open as a museum/historical site where visitors could learn the Frazee story and about this area during the Colonial era. The remaining property could be used as a park/ rec area. Although the town has a number of parks/playgrounds, there aren't really any in the side of town where the property is located.	Dec 9, 2011 5:57 PM
38	A rare house of this vintage- never a fancy estate, but a working farm whose owners lived there. The more NJ is developed, the more valuable and instructive old farms can be for learning about our history. (I like the idea of a community garden on the property.) As the history of the property and its owners continues to be discovered, interpreting this information can lead to additional public programming options. The radio exhibit is terrific.	Dec 9, 2011 7:34 AM
39	In addition to its historical significance on the local and state level, The house and property is very strategically located... on the corner of the well traveled Terrill Road, across from a popular golf course, near a large county educational facility and nice neighborhood.	Dec 9, 2011 7:17 AM

Q12. Please tell us in a few words what you LIKE about the house and property:

40	It is still on a reasonably large piece of land, according to NJ standards. The setting is perfect for interpretation, since it is still somewhat rural.	Dec 9, 2011 6:01 AM
41	The history of the property and the space it provides.	Dec 8, 2011 3:42 PM
42	The house is an historic treasure and the property is truly beautiful. It is a true suburban gem	Dec 8, 2011 1:11 PM
43	It's wonderful that a non-history organization made the commitment to restore property that is part of local, county and state history. The house has a great story to tell. It's near the Terry Well and the site of the battle.	Dec 8, 2011 7:32 AM
44	Genealogical interest of Frazee family.	Dec 7, 2011 8:16 PM
45	The historical aspect. the many 'lives' of the property. We are loosing so much history in SP houses torn down for cookie cutter homes (see Mountain ave). let's preserve this bit of heritage	Dec 7, 2011 3:34 PM
46	The fact that it is a historical site. It should be preserved for history and the property used for park like activities. No developments!	Dec 7, 2011 11:13 AM
47	the historical value of both the property and most important the house itself.	Dec 6, 2011 7:08 PM
48	It's a local historical site with a real connection to the revolutionary war. It would be a shame to let it decay away. Frank Terry may have been a character but at least he kept the property in use and gave the area some local color.	Dec 6, 2011 6:34 PM
49	It is part of our town's history and unlike other wooded and "not sold to the highest bidder" open properties in the town. Does everyone realize that the town's historical legacy and preservation of open land for wildlife, is in jeopardy of being gone for ever? Just make this go the right way for once, huh?!	Dec 6, 2011 5:12 PM
50	Know little about it. Never been there.	Dec 6, 2011 4:47 PM
51	The historical value it adds to the community.	Dec 6, 2011 4:19 PM
52	Location Historical significance Potential for recreation and education	Dec 6, 2011 3:25 PM
53	It's part of our town's history. Preserve it for our children and community to learn about the town's early history.	Dec 6, 2011 3:09 PM
54	It's history and relevance to our neighborhood and the preservation of the open space.	Dec 6, 2011 12:44 PM
55	I will like whatever is done to it to lower my tax burden.	Dec 6, 2011 11:46 AM
56	We could use some nice park land on the south side of town.	Dec 6, 2011 10:52 AM
57	I heard of the Frazee house, but dont know anything about it	Dec 6, 2011 10:14 AM
58	I am not an advocate of restoring and maintaining the house. There is a comparable one up the road at Oak Ridge. How active is that facility????	Dec 6, 2011 10:07 AM
59	Nice piece of property still in tact for historical reasons	Dec 6, 2011 9:33 AM

Q12. Please tell us in a few words what you LIKE about the house and property:

60	The property would be better as a residential home. Less traffic than any other suggestions. Or maybe move a group home there instead of where it is down the street	Dec 6, 2011 8:44 AM
61	As a township resident for 25 years, I often drive by the property. Currently, it's in a sad state. It behooves the community to try and restore and educate the public on its historical importance. I also remember taking my young children to the Terry Lou Zoo; it was so "novel" to have a zoo in the midst of a residential area.	Dec 6, 2011 7:51 AM
62	It's one of the few remaining undeveloped parcels of land left in town. I live nearby, and would find it nice to have a small park-like destination to walk to. The house is of historical significance and too many similar structures have been destroyed over the years. It would be criminal to let it deteriorate or be destroyed.	Dec 6, 2011 7:32 AM
63	The story is a compelling one; from the outside, the house makes me want to be able to see the inside; the grounds are could be quite lovely with a little work; I think the area school children would benefit quite a bit from being able to tour the inside and perhaps even a working historical site such as with the Osborne Cannonball House.	Dec 6, 2011 7:32 AM
64	Living in a community with such a rich, historic background offers opportunities to learn about our past. Renovating and maintaining the Frazee House will enable Scotch Plains to share this heritage with so many.	Dec 6, 2011 7:28 AM
65	I don't know a lot about the property. Would be nice to learn. Plus any open space in our community I support plus an opportunity for the space to be used for enjoyment as well as perhaps a community garden to promote green living and a way to help support the less fortunate with more than just boxed and canned food.	Dec 6, 2011 6:45 AM
66	Accessible history lesson Undeveloped land in Scotch Plains	Dec 6, 2011 6:39 AM
67	History and actual story/role in Rev. War.	Dec 6, 2011 6:13 AM
68	History	Dec 6, 2011 5:51 AM
69	everything	Dec 6, 2011 5:31 AM
70	The history and information on the origins of Scotch Plains	Dec 6, 2011 4:56 AM
71	I like the fact there is still undeveloped land in scotch plains. It would be nice to keep it that way!	Dec 6, 2011 4:51 AM
72	The history surrounding the house and its connection to the revolutionary war.	Dec 6, 2011 4:28 AM
73	The house and property are an actual and direct link to our national (Revolutionary War), regional (colonial settlement), and local (these particular residents) history. The house, the property and the events that swirled like a storm around them are our heritage.	Dec 6, 2011 4:03 AM
74	the history of the house. the large amount of open space	Dec 6, 2011 4:02 AM
75	Fond memories of the zoo....one of the last plots of undeveloped land in the town	Dec 6, 2011 4:01 AM

Q12. Please tell us in a few words what you LIKE about the house and property:

76	I think that the property is a very important part of our history that I would hate to lose. Scotch Plains doesn't have a park on our side of town that you can just go to and have a picnic, do a walking path, etc.	Dec 6, 2011 3:49 AM
77	I love the history of the property. I would like to see the opportunity of more arts venues in the open space and less soccer.	Dec 6, 2011 3:41 AM
78	Does bring back memories of taking the children there for the zoo and pony rides. Would make a lovely park	Dec 6, 2011 3:36 AM
79	I like the history of Betty Frazee and the construction of the home.	Dec 6, 2011 3:16 AM
80	important historical aspect , there was an early american indian community close by as well, the revolutionary war was fought heavily in an around scotch plains	Dec 6, 2011 2:48 AM
81	The location is good and there's a story to be told that relates to the history of Scotch Plains and the surrounding area.	Dec 6, 2011 2:04 AM
82	Nothing	Dec 5, 2011 9:06 PM
83	The historical significance of the Battle that was nearby, including the top generals on both sides. The property should be maintained and improved but used mainly as passive recreational. More of an area for reflection personally and historically. I think the whole area should be recognized and dedicated for the historic part Scotch Plains played in the war.	Dec 5, 2011 9:02 PM
84	History	Dec 5, 2011 8:44 PM
85	History; open space	Dec 5, 2011 8:37 PM
86	Location	Dec 5, 2011 8:33 PM
87	unique and historical	Dec 5, 2011 8:31 PM
88	Unique value as example of ordinary people in 18th century	Dec 5, 2011 8:37 AM
89	That it is an actual farm property.	Dec 5, 2011 8:32 AM
90	The history of the house in general, and specifically the encounter with the British troops	Dec 5, 2011 8:24 AM
91	Breathing space in suburban sprawl Courage of founders As last resort to avoid McMansions	Dec 5, 2011 8:20 AM

Q13. Please tell us in a few words what you DISLIKE about the house and property:

1	That it's right on the bend of a busy road. Afraid that increased car traffic might cause a problem.	Jan 31, 2012 2:00 PM
2	Right now, the house is in a state of disrepair and the property, one of the larger open spaces in town, is essentially not utilized.	Jan 30, 2012 5:26 PM
3	It's current state of disarray	Jan 30, 2012 4:50 PM
4	The house is an eyesore and has held up the development of that property for at least 12 years. Now my kids are too old to benefit from the use of a local playground which could have easily been implemented. I propose you engrave the comic book story on a plaque, attach it to a monument made out of foundation stones and call it a day.	Jan 25, 2012 9:59 AM
5	It's a bit of an eyesore currently. It looks like it should be kept up a little better.	Jan 25, 2012 6:56 AM
6	It is run down and needs to be tended to.	Jan 23, 2012 10:17 AM
7	Just that a project of this scope takes so long to complete.	Jan 20, 2012 4:02 AM
8	condition of property	Jan 17, 2012 10:34 AM
9	I dislike the fact that it has taken over ten years to stabilize and restore the house and develop a program with a local institution like Rutgers, Kean College, Columbia University or Union County Technical Institute. A well thought-out cooperative educational program assisted by a group of Friends of Frazee House would make the place again a neighborhood attraction as it was in the days of Terrylou Zoo.	Jan 13, 2012 12:36 PM
10	lack of maintenance--both house and land	Jan 9, 2012 2:40 PM
11	Give it a name - actually 2. We seem to have settled on The Aunt Betty Frazee House. The parkland around it - Terry Lou Park has been suggested - great idea - if you've lived in town more than a few years - you know it as the zoo. People still give directions but saying - go down by the zoo and turn.... New comers may not get it - but it will stick and not take away from the Aunt Betty Theme. But if you want to stay with the Revoutionary theme - make it Colonial Park, or Revolutionary Park, or Frazee Park - but pick a name and put up a real sign - not a wooden drawing like is there now - When the County bought the Pondarosa Farm - the first thing they did was put up a County Park Sign with the name - even before there was public access - the public could see that something was changing - it took a few years - but now it's happeing. We need to do the same here - put up signs for the park & house - generate interest. (personally I like Terry Lou Park & The Betty Frazee House) There is some maintenence - but it is allowed to grow over. The property is not inviting - broken down fences - no trespassing signs - no clear entrance - not inviting at all - despite the sign inviting you to pull in & listen to the story - how many people do that - it looks abandoned - and that's how people look at it - Additionally - it's occassionally used as an overflow by the town maintenance - temporarily dumping storm damaged trees/trash, parking equipment there - that would be fine - if the rest of the time it looked inviting and is maintained - but that is not the case.	Jan 4, 2012 8:25 PM

Q13. Please tell us in a few words what you DISLIKE about the house and property:

12	Currently an eyesore.	Jan 2, 2012 10:01 AM
13	Its current appearance needs improvement. I think the way the animals were treated at terry Lou Zoo is very sad.	Dec 29, 2011 6:36 AM
14	Property needs to be available for the community to use.	Dec 27, 2011 1:01 PM
15	That it is empty and useless. The site should be developed for the community to use.	Dec 21, 2011 8:51 AM
16	The negative to the project is the cost. I personally would be in favor of forgoing some of the historical and archeology details if the overall sense of the historical importance of the site could be preserved.	Dec 20, 2011 2:04 PM
17	It is no use to anyone right now. It is a waste of a potential park.	Dec 19, 2011 3:48 AM
18	I do not like the idea of spending so many resources to restore another building. Economy is not good. The expenses on any restoration and maintenance, utilities, insurance, labor costs (even with volunteers), would continually grow year after year. The history can be preserved without preserving the building.	Dec 14, 2011 7:13 AM
19	Everything. Just sell it already	Dec 14, 2011 7:00 AM
20	Expense of reconstruction / development in a time of limited resources	Dec 14, 2011 6:30 AM
21	Need fixing	Dec 13, 2011 7:06 PM
22	It is messy and an eyesore currently.	Dec 13, 2011 5:30 PM
23	its being wasted now; its a wasteland.	Dec 13, 2011 1:57 PM
24	that it was allowed to deteriorate	Dec 11, 2011 3:51 PM
25	That's it's been in disrepair and abandoned since the zoo closed over 15 years ago!!!!	Dec 10, 2011 12:45 PM
26	The property is beautiful, but is not maintained. It often looks in disarray and messy. It should be a little piece of open space and source of history that residents can be proud of, and have access to as well.	Dec 10, 2011 12:15 PM
27	not readily open to public, doesnt look like much has happened to improve the property conditions	Dec 10, 2011 9:27 AM
28	Although I haven't seen it, I imagine it can't be ADA compliant and it isn't big enough for large groups, but with innovative programming and continued support through the 501c3 organization these limitations can be overcome.	Dec 9, 2011 7:34 AM
29	The corner location, Raritan and Terrill Roads, can be somewhat dangerous.	Dec 9, 2011 7:17 AM
30	It's been modified by the zoo people, no doubt, so it might be difficult to ascertain what was original and what wasn't.	Dec 9, 2011 6:01 AM
31	The current condition of the surrounding property.	Dec 8, 2011 3:42 PM

Q13. Please tell us in a few words what you DISLIKE about the house and property:

32	Currently it is an eyesore and needs better maintenance	Dec 8, 2011 1:11 PM
33	As you know, restoration will take a long time and is coupled with maintenance.	Dec 8, 2011 7:32 AM
34	The current state of disrepair	Dec 7, 2011 3:34 PM
35	The property needs to be cleaned and maintained. it could be a great historical and public space.	Dec 7, 2011 11:13 AM
36	Its gradual decay and overgrown property. While it is being decided what to do, couldn't we at least make part of it a usable low maintenance passive park and/or community garden?	Dec 6, 2011 6:34 PM
37	It's an eye sore and needs attention.	Dec 6, 2011 5:12 PM
38	Know little about it. Never been there.	Dec 6, 2011 4:47 PM
39	It needs a makeover and can be better utilized for community related activities.	Dec 6, 2011 4:19 PM
40	Ok if the property is used eventually for passive use - but only if the house is preserved for historical purposes	Dec 6, 2011 3:09 PM
41	If it will result in an increase to real estate taxes for us citizens, sell it to a not profit organization who can run it better.	Dec 6, 2011 11:46 AM
42	It is ugly, rundown, and an eyesore.	Dec 6, 2011 10:52 AM
43	I heard of the Frazee house, but dont know anything about it	Dec 6, 2011 10:14 AM
44	An eye sore and and already invested \$ in Oak Ridge.This is a recession !!	Dec 6, 2011 10:07 AM
45	right now it is very messy.	Dec 6, 2011 8:44 AM
46	It's current state of decrepitude.	Dec 6, 2011 7:51 AM
47	Nothing, really, except for its current state of limbo. Is it open to the public or not? I'm not really sure.	Dec 6, 2011 7:32 AM
48	The fact that it is not in a condition that would enable tours of the interior.	Dec 6, 2011 7:32 AM
49	As the house and property stands right now is certainly an eyesore. But, I have full confidence that with the resources needed to restore the Frazee House met, this property can and should be a wonderful landmark.	Dec 6, 2011 7:28 AM
50	property has not been maintained. Is the property the reason for the right angle turns on Raritan Rd?	Dec 6, 2011 6:39 AM
51	take off public rolls and abandon the property/house and let someone do whatever they want with it.	Dec 6, 2011 6:27 AM
52	Dislike current condition. For a small town it is hard to have two historical house sites. It is too bad they are not adjacent. There are downsides to moving either one to be closer to the other. Frazee is along actual troop movement path, but it is "out there" away from town. Cannon Ball near Stage House gives a small feel	Dec 6, 2011 6:13 AM

Q13. Please tell us in a few words what you DISLIKE about the house and property:

	of historical village.	
53	nothing	Dec 6, 2011 5:31 AM
54	Not enough public information about it. I really have no idea about what goes on there.	Dec 6, 2011 5:19 AM
55	How it is now maintained - it is a sham the way it is kept.	Dec 6, 2011 4:56 AM
56	As of right now it is in shambles. That's really it.	Dec 6, 2011 4:51 AM
57	The current condition of the house and property.	Dec 6, 2011 4:28 AM
58	While there are many involved in the egalitarian concepts as brought to this project by historical preservationists, scholars, archeologists, students and others, I believe that what this project, the house and property, lacks is a focused, multi-stage, time-appropriate marketing plan. More than a list of possible beneficiaries of this project, a true, new-media based marketing campaign, focused on generating national recognition through civic and education oriented outreach efforts could bring cash to this project. This would mean more than coffee cups and tee-shirts with the local logo screened on. ...and yes, I have some ideas.	Dec 6, 2011 4:03 AM
59	it is an eye sore right now and has been for many years	Dec 6, 2011 4:02 AM
60	Currently often an eyesore because of poor maintenance	Dec 6, 2011 4:01 AM
61	I do not like that it stands unused and unkept. I would NOT like to see another soccer field put there!!!!	Dec 6, 2011 3:41 AM
62	Right now it is an eye sore and in the many years that it has been empty, it has lost it's charm and future appeal as an historical site.	Dec 6, 2011 3:36 AM
63	I do not like the fact that the home is not advertised as such an important historical treasure in our community.	Dec 6, 2011 3:16 AM
64	that it has deteriorated	Dec 6, 2011 2:48 AM
65	The current state of the house and property is very bad.	Dec 6, 2011 2:04 AM
66	Why waist town funds on this place. It should be bulldozed and the property sold off to raise funds for the town.	Dec 5, 2011 9:06 PM
67	Property needs to be maintained and improved and be available for passive enjoyment. The House is in disrepair and shouldn't be restored to exactly what it was, but only a replica. That can be used as a meeting place, retail,(baked goods!) for the public. The fact that Betty Frazee lived there is not going to draw many people from Scotch Plains and certainly not many outside of here. Use the house and story as part of the revolutionary war battle remembrance.	Dec 5, 2011 9:02 PM
68	unsightly at present	Dec 5, 2011 8:31 PM
69	Not kept up Looks abandoned	Dec 5, 2011 8:37 AM

Q13. Please tell us in a few words what you DISLIKE about the house and property:

70	House - appearance improvement needed b having painted simulated windows Need to rework parking lot - in center -it now looks like a "municipal yard" A high bridge over stream needed - about in center of the 6 acres	Dec 5, 2011 8:32 AM
71	Expense for amount of usable area/activity Too lumpy to develop	Dec 5, 2011 8:20 AM

Q15. Would you be willing to volunteer your time to help support the house and property restoration and maintenance?

1	Property maintenace, gardening, tree planting,	Jan 30, 2012 4:50 PM
2	I am currently on the Board of this project and would like to stay involved until completion.	Jan 20, 2012 4:02 AM
3	I am not yet retired and need income myself, but I would be willing to offer up to \$500 worth of promotional materials and graphics as well as ideas for a potential educational program. I have already given lectures on the subject and have a slide show that could be put on a disk for PR purposes for presentation to interested groups for educational purposes. I worked on the project in the past - why haven't I been contacted directly?	Jan 13, 2012 12:36 PM
4	in committee to develop the historic plan, and self reliance of the property	Jan 7, 2012 7:11 PM
5	Not at this time.	Jan 6, 2012 9:22 AM
6	Anyway, student involvement	Jan 6, 2012 9:19 AM
7	Contact universities for relevant departments to recruit graduate students or others with relevant skills and interests.	Jan 6, 2012 9:12 AM
8	anything i can do	Jan 5, 2012 6:31 PM
9	I'm not a craftsman - but willing to do some labor - also help with fund raising - organizing town events to call attention to it. I've been behind this from the start - but it's mailings and newspaper ads - it needs to be more real - on-site - let people touch it - take steps by opening the park -that would seem the quickest hit - build it from there. I've lived in town 18 years and would be happy to stump for it - and I think most people would like to help - but no one know the plan - now surveys what do you want - I'm not sure most people know - so KISS - Keep it Simple - start a park - with a few events - throw up a tent - with some drawings / presentations - of options - answer questions about the impact of each of the options - then go to the next level - 10 years of trying to find the perfect solution - start small - build up.	Jan 4, 2012 8:25 PM
10	Not sure, it would really depend on how the property is developed and what opportunities are available for volunteering.	Dec 21, 2011 8:51 AM
11	I have a background in the construction industry and an interest in the history of Scotch Plains. I am retired and my age and infirmities preclude any physical activities but I would be interested in possibly doing some type of lecturing about the project and the history of the area.	Dec 20, 2011 2:04 PM
12	Learning construction repair techniques. Guiding student tours. Planning small parties for people who want to rent it for parties. Having art programs for students, and seniors (sculpting, painting, crafts)	Dec 19, 2011 3:48 AM
13	My expertise is in finance, but I'm willing to do whatever is needed.	Dec 15, 2011 2:13 PM
14	Possibly, depending on where the needs are.	Dec 14, 2011 2:06 PM
15	maybe	Dec 14, 2011 3:49 AM

Q15. Would you be willing to volunteer your time to help support the house and property restoration and maintenance?

16	As a retired educator I would be interested in running tours or perhaps a class	Dec 13, 2011 5:30 PM
17	I am sorry I cannot invest time or money in such a great project. Good luck!	Dec 11, 2011 3:51 PM
18	maybe	Dec 10, 2011 12:45 PM
19	I don't have experience in restoration, but I'd love to help. I can clean, garden, do historical research, help type/make placards, set up exhibits, etc.	Dec 10, 2011 12:15 PM
20	grant writing	Dec 9, 2011 7:34 AM
21	I am willing to help promote the history and mission of the house in my role as History Programs Coordinator in the Union County Office of Cultural and Heritage Affairs.	Dec 9, 2011 7:17 AM
22	Sorry, I live too far away.	Dec 9, 2011 6:01 AM
23	Perhaps, however I would like to learn more about current plans and expectations.	Dec 8, 2011 3:42 PM
24	Willing to help in any capacity	Dec 8, 2011 1:11 PM
25	Another state.	Dec 7, 2011 8:16 PM
26	I work full time, but am open to suggestions.	Dec 7, 2011 3:34 PM
27	gardening or maintaining the grounds around the house. I can help with maintance in the house but not any heavy lifting... I can refinish wood surfaces or removing old paint or wallpaper.	Dec 6, 2011 7:08 PM
28	On an occasional basis.	Dec 6, 2011 6:34 PM
29	Maybe. Need to learn more about it.	Dec 6, 2011 4:47 PM
30	It is not a case of willing, but of able to help	Dec 6, 2011 3:25 PM
31	I have to say we should be ashamed of how the property looks. (it look like a shit hole) but that's nothing new just look at the down town. I really like the dog training stuff just laying around i wonder how much that the tax payers!	Dec 6, 2011 12:59 PM
32	I am an architect and specialize in historic preservation interior design.	Dec 6, 2011 12:44 PM
33	right now cannot do so, sadly as full time working single parent.	Dec 6, 2011 9:33 AM
34	cannot- physically unable at present time.	Dec 6, 2011 8:02 AM
35	in a docent capacity.	Dec 6, 2011 7:51 AM
36	I'm not particularly handy, so not sure that I'm qualified to help with the house. I'd be willing to help with property maintenance, though it couldn't be too intensive.	Dec 6, 2011 7:32 AM
37	Any grunt work you need me to do.	Dec 6, 2011 7:32 AM

Q15. Would you be willing to volunteer your time to help support the house and property restoration and maintenance?

38	Whatever my skills as an organizer can support.	Dec 6, 2011 6:45 AM
39	Help with gardening or restoration jobs.	Dec 6, 2011 6:44 AM
40	maybe...not sure what i could do to help	Dec 6, 2011 5:31 AM
41	I am willing to make quilts and knitting items that relates to that era Physical work is impossible	Dec 6, 2011 4:56 AM
42	I have very limited time, but if there is resotation or improvements that need help with on the property. Just need to poll for voluteers when needed. Use the Scotch Plains distribution that was used for this survey.	Dec 6, 2011 4:47 AM
43	Light general construction/carpentry work,clean up, etc.	Dec 6, 2011 4:28 AM
44	I have recently been looking into the nation-wide efforts to gain acceptance and participants in local historical preservation. A very recent and ecologically brilliant idea has surfaced in the 'Historically Accurate Naturalizing' of parking areas, lawns and plantings that comprise the settings of historically noteworthy sites. Our project, our grounds, can be among the first to restore small patches of those plants, forests, glades and hills forced into obscurity or even extinction by aggressive, invading vegetation as accidently or deliberately released by explorers and settlers as they struggled to insert their priorities into existing environments. These new 'turn-back-the-hands-of-time' explorations will increase in popularity as America begins to accept the inevitability of reducing its role as World Policeman. Noteworthy destinations such as this would provide an entry to the local tourism market.	Dec 6, 2011 4:03 AM
45	I would be willing to come on a rotating schedule to help maintain, if one was put in, a community garden.	Dec 6, 2011 3:49 AM
46	I'm up to my ears in other ciommittments. Might help next year. Handyman stuff.	Dec 6, 2011 3:36 AM
47	slave labor	Dec 6, 2011 2:48 AM
48	I am very interested in seeing the grounds restored in an appropriate manner.	Dec 6, 2011 2:04 AM
49	Currently not. But if there was an actual plan that can be realized , I will then contact Your organization to devote both time and money.	Dec 5, 2011 9:02 PM
50	I need a description of the jobs.	Dec 5, 2011 8:37 PM
51	Maybe	Dec 5, 2011 8:33 PM
52	volunteer man hours when possible	Dec 5, 2011 8:31 PM
53	Maintenance Remove Front Addition	Dec 5, 2011 8:37 AM
54	Rotary Club member (I already am)- now doing the grounds maintenance around the house will to do repair, painting and construction work inside and outside the house	Dec 5, 2011 8:32 AM
55	Handyman, occasional Yardwork	Dec 5, 2011 8:20 AM

Q16. If you would like to receive additional information about the Frazee House or be contacted for future volunteer opportunities, please provide us with your contact information. This question is optional.

Name		
1	Denise Rogers	Jan 25, 2012 6:56 AM
2	Frederic C.. Detwiler	Jan 13, 2012 12:36 PM
3	robert blair	Jan 9, 2012 2:40 PM
4	Joseph Cicchetti	Jan 7, 2012 7:11 PM
5	Ron Litz	Jan 6, 2012 9:19 AM
6	Jim Hewitt	Jan 6, 2012 9:12 AM
7	Derek Montalvan	Jan 5, 2012 6:31 PM
8	Jim Killeen	Jan 4, 2012 8:25 PM
9	Tony Ventura	Jan 1, 2012 4:54 PM
10	Sue Vlkovic	Dec 29, 2011 6:36 AM
11	L'etta Gulbin	Dec 21, 2011 8:51 AM
12	Elmer (Perte) Terry	Dec 20, 2011 2:04 PM
13	Lillian Wiener	Dec 19, 2011 3:48 AM
14	Dolores Bruschetti	Dec 15, 2011 2:13 PM
15	Lisa Colao	Dec 14, 2011 2:06 PM
17	Lynne Marcin	Dec 10, 2011 12:15 PM
18	Jennifer Lahey	Dec 9, 2011 5:57 PM
19	Bev Crifasi	Dec 9, 2011 7:34 AM
20	Ethel M. Washington	Dec 9, 2011 7:17 AM
21	David	Dec 9, 2011 6:01 AM
22	Ferguson	Dec 9, 2011 5:12 AM
23	Michael	Dec 8, 2011 3:42 PM
24	michael mietlicki	Dec 8, 2011 2:31 PM
25	Barbara Fuller	Dec 8, 2011 7:32 AM
26	Candace Frazee	Dec 7, 2011 8:16 PM
27	Teresa Sullivan	Dec 7, 2011 3:34 PM

Q16. If you would like to receive additional information about the Frazee House or be contacted for future volunteer opportunities, please provide us with your contact information. This question is optional.

28	Ted Bassman	Dec 7, 2011 1:02 PM
29	Cathy	Dec 7, 2011 11:13 AM
30	M. LaMorte-Wright	Dec 7, 2011 7:15 AM
31	june chernetz	Dec 6, 2011 7:08 PM
32	Mary Mahony	Dec 6, 2011 6:34 PM
33	Denise Friedson	Dec 6, 2011 5:06 PM
34	Tom Carroll	Dec 6, 2011 4:47 PM
35	Andrea Francis-Scott	Dec 6, 2011 4:19 PM
36	Camille Guerriero	Dec 6, 2011 12:44 PM
37	Sigrid Sindel	Dec 6, 2011 7:32 AM
38	Clarissa Tricoche	Dec 6, 2011 6:45 AM
39	Annie McNair	Dec 6, 2011 6:00 AM
40	michelle fiddler	Dec 6, 2011 5:51 AM
41	Michelle Wyrwa	Dec 6, 2011 5:19 AM
42	Linda Kelly (nee Kitsz)	Dec 6, 2011 4:56 AM
43	Ron Skwirut	Dec 6, 2011 4:28 AM
44	George F. Gowen	Dec 6, 2011 4:03 AM
45	Janine Connolly	Dec 6, 2011 3:49 AM
47	John Kocher	Dec 6, 2011 3:36 AM
48	Mrs. Donna E. Carrington	Dec 6, 2011 3:16 AM
49	Claudia Heffner	Dec 6, 2011 2:04 AM
50	Arlene R Soban	Dec 5, 2011 9:18 PM
51	Rita Selesner	Dec 5, 2011 8:37 PM
E-mail		
1	drbombay@optonline.net	Jan 25, 2012 6:56 AM
2	rick.detwiller@comcast.net	Jan 13, 2012 12:36 PM
3	lobsterblair@comcast.net	Jan 9, 2012 2:40 PM

Q16. If you would like to receive additional information about the Frazee House or be contacted for future volunteer opportunities, please provide us with your contact information. This question is optional.

4	ebayer2000@comcast.net	Jan 7, 2012 7:11 PM
5	rlitz@spfk12.org	Jan 6, 2012 9:19 AM
6	jshewitt260@gmail.com	Jan 6, 2012 9:12 AM
8	jpk50@verizon.net	Jan 4, 2012 8:25 PM
9	latony05@yahoo.com	Jan 1, 2012 4:54 PM
10	vlkovic@aol.com	Dec 29, 2011 6:36 AM
11	Lgulbin@msn.com	Dec 21, 2011 8:51 AM
12	eandjterry@msn.com	Dec 20, 2011 2:04 PM
13	lilydancer@comcast.net	Dec 19, 2011 3:48 AM
14	bruschetti@comcast.net	Dec 15, 2011 2:13 PM
15	scolao1239@comcast.net	Dec 14, 2011 2:06 PM
16	Kcym_8@msn.com	Dec 11, 2011 4:14 PM
17	lynnemarcin@gmail.com	Dec 10, 2011 12:15 PM
18	jml276@hotmail.com	Dec 9, 2011 5:57 PM
19	beverlycrifasi@gmail.com	Dec 9, 2011 7:34 AM
20	ewashington@ucnj.org	Dec 9, 2011 7:17 AM
21	dekmerl@aol.com	Dec 9, 2011 6:01 AM
22	r.Ferguson@live.com	Dec 9, 2011 5:12 AM
23	mtrussell@aol.com	Dec 8, 2011 3:42 PM
24	michael.mietlicki@mietlicki.org	Dec 8, 2011 2:31 PM
25	bfuller@ucnj.org	Dec 8, 2011 7:32 AM
26	SILA88@aol.com	Dec 7, 2011 8:16 PM
27	tree888888@hotmail.com	Dec 7, 2011 3:34 PM
28	tbassman@verizon.net	Dec 7, 2011 1:02 PM
29	cfeeley@hotmail.com	Dec 7, 2011 11:13 AM
31	jachernetz4@aol.com	Dec 6, 2011 7:08 PM
32	mfmahony2@aol.com	Dec 6, 2011 6:34 PM

Q16. If you would like to receive additional information about the Frazee House or be contacted for future volunteer opportunities, please provide us with your contact information. This question is optional.

33	dfriedson@yahoo.com	Dec 6, 2011 5:06 PM
34	carrolltr@gmail.com	Dec 6, 2011 4:47 PM
35	angies0308@comcast.net	Dec 6, 2011 4:19 PM
36	SpiralSunStudios@gmail.com	Dec 6, 2011 12:44 PM
37	siggisin@verizon.net	Dec 6, 2011 7:32 AM
38	riss60@comcast.net	Dec 6, 2011 6:45 AM
39	annieconde@aol.com	Dec 6, 2011 6:00 AM
40	michelle.fiddler@gmail.com	Dec 6, 2011 5:51 AM
41	mawyrwa@yahoo.com	Dec 6, 2011 5:19 AM
42	Lindaschuyler@Yahoo.com	Dec 6, 2011 4:56 AM
43	ronskwirut@yahoo.com	Dec 6, 2011 4:28 AM
44	george@gowen.com	Dec 6, 2011 4:03 AM
45	janineconnolly@gmail.com	Dec 6, 2011 3:49 AM
46	jennylogus@me.com	Dec 6, 2011 3:41 AM
47	johnkocher2aol.com	Dec 6, 2011 3:36 AM
48	kedar21@verizon.net	Dec 6, 2011 3:16 AM
49	clhefner@optonline.net	Dec 6, 2011 2:04 AM
50	arsoban@verizon.net	Dec 5, 2011 9:18 PM
51	ritasel@comcast.net	Dec 5, 2011 8:37 PM
52	xrayray259@gmail.com	Dec 5, 2011 8:20 AM
Phone		
2	978-352-2819	Jan 13, 2012 12:36 PM
3	908 561 1017	Jan 9, 2012 2:40 PM
4	1.908.757.7501	Jan 7, 2012 7:11 PM
6	908-233-5507	Jan 6, 2012 9:12 AM
8	908-723-2224	Jan 4, 2012 8:25 PM
11	908-518-9630	Dec 21, 2011 8:51 AM

Q16. If you would like to receive additional information about the Frazee House or be contacted for future volunteer opportunities, please provide us with your contact information. This question is optional.

12	908-757-1885	Dec 20, 2011 2:04 PM
14	908-668-7998	Dec 15, 2011 2:13 PM
15	908-757-1718	Dec 14, 2011 2:06 PM
19	973-226-4298	Dec 9, 2011 7:34 AM
20	908.436.2912	Dec 9, 2011 7:17 AM
25	908-558-2550	Dec 8, 2011 7:32 AM
26	(626) 798-8848	Dec 7, 2011 8:16 PM
28	908-754-3046	Dec 7, 2011 1:02 PM
31	908 654 7488	Dec 6, 2011 7:08 PM
32	908-233-7837	Dec 6, 2011 6:34 PM
35	9083228689	Dec 6, 2011 4:19 PM
36	908-346-4373	Dec 6, 2011 12:44 PM
42	908 889 6632	Dec 6, 2011 4:56 AM
43	732 423-1780	Dec 6, 2011 4:28 AM
44	9083136586	Dec 6, 2011 4:03 AM
45	908-228-2334	Dec 6, 2011 3:49 AM
49	908-322-2969	Dec 6, 2011 2:04 AM
51	908-403-6283	Dec 5, 2011 8:37 PM

APPENDIX C

9 Preservation Briefs

Technical Preservation Services

National Park Service
U.S. Department of the Interior

The Repair of Historic Wooden Windows

John H. Myers

- » [Architectural or Historical Significance](#)
- » [Physical Evaluation](#)
- » [Repair Class I: Routine Maintenance](#)
- » [Repair Class II: Stabilization](#)
- » [Repair Class III: Splices and Parts Replacement](#)
- » [Weatherization](#)
- » [Window Replacement](#)
- » [Conclusion](#)
- » [Additional Reading](#)



A NOTE TO OUR USERS: The web versions of the **Preservation Briefs** differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

The windows on many historic buildings are an important aspect of the architectural character of those buildings. Their design, craftsmanship, or other qualities may make them worthy of preservation. This is self-evident for ornamental windows, but it can be equally true for warehouses or factories where the windows may be the most dominant visual element of an otherwise plain building. Evaluating the significance of these windows and planning for their repair or replacement can be a complex process involving both objective and subjective considerations. *The Secretary of the Interior's Standards for Rehabilitation* and the accompanying guidelines, call for respecting the significance of original materials and features, repairing and retaining them wherever possible, and when necessary, replacing them in kind. This Brief is based on the issues of significance and repair which are implicit in the standards, but the primary emphasis is on the technical issues of planning for the repair of windows including evaluation of their physical condition, techniques of repair, and design considerations when replacement is necessary.

Much of the technical section presents repair techniques as an instructional guide for the do-it-yourselfer. The information will be useful, however, for the architect, contractor, or developer on large-scale projects. It presents a methodology for approaching the evaluation and repair of existing windows, and considerations for replacement, from which the professional can develop alternatives and specify appropriate materials and procedures.

Architectural or Historical Significance

Evaluating the architectural or historical significance of windows is the first step in planning for window treatments, and a general understanding of the function and history of windows is vital to making a proper evaluation. As a part of this evaluation, one must consider four basic window functions: admitting light to the interior spaces, providing fresh air and ventilation to the interior, providing a visual link to the outside world, and

enhancing the appearance of a building. No single factor can be disregarded when planning window treatments; for example, attempting to conserve energy by closing up or reducing the size of window openings may result in the use of *more* energy by increasing electric lighting loads and decreasing passive solar heat gains.



Windows are frequently important visual focal points, especially on simple facades such as this mill building. Replacement of the multi-pane windows with larger panes could dramatically alter the appearance of the building. Photo: NPS files.

Historically, the first windows in early American houses were casement windows; that is, they were hinged at the side and opened outward. In the beginning of the eighteenth century single- and double-hung windows were introduced. Subsequently many styles of these vertical sliding sash windows have come to be associated with specific building periods or architectural styles, and this is an important consideration in determining the significance of windows, especially on a local or regional basis. Site-specific, regionally oriented architectural comparisons should be made to determine the significance of windows in question. Although such comparisons may focus on specific window types and their details, the ultimate determination of significance should be made within the context of the whole building, wherein the windows are one architectural element.

After all of the factors have been evaluated, **windows should be considered significant to a building if they:** **1)** are original, **2)** reflect the original design intent for the building, **3)** reflect period or regional styles or building practices, **4)** reflect changes to the building resulting from major periods or events, or **5)** are examples of exceptional craftsmanship or design. Once this evaluation of significance has been completed, it is possible to proceed with planning appropriate treatments, beginning with an investigation of the physical condition of the windows.

Physical Evaluation

The key to successful planning for window treatments is a careful evaluation of existing physical conditions on a unit-by-unit basis. A graphic or photographic system may be devised to record existing conditions and illustrate the scope of any necessary repairs. Another effective tool is a window schedule which lists all of the parts of each window unit. Spaces by each part allow notes on existing conditions and repair instructions. When such a schedule is completed, it indicates the precise tasks to be performed in the repair of each unit and becomes a part of the specifications. In any evaluation, one should note at a minimum:

- **1)** window location
- **2)** condition of the paint
- **3)** condition of the frame and sill
- **4)** condition of the sash (rails, stiles and muntins)
- **5)** glazing problems
- **6)** hardware, and
- **7)** the overall condition of the window (excellent, fair, poor, and so forth)

Many factors such as poor design, moisture, vandalism, insect attack, and lack of maintenance can contribute to window deterioration, but moisture is the primary contributing factor in wooden window decay. All window units should be inspected to see if water is entering around the edges of the frame and, if so, the joints or seams should be caulked to eliminate this danger. The glazing putty should be checked for cracked, loose, or missing sections which allow water to saturate the wood, especially at the

joints. The back putty on the interior side of the pane should also be inspected, because it creates a seal which prevents condensation from running down into the joinery. The sill should be examined to insure that it slopes downward away from the building and allows water to drain off. In addition, it may be advisable to cut a dripline along the underside of the sill. This almost invisible treatment will insure proper water runoff, particularly if the bottom of the sill is flat. Any conditions, including poor original design, which permit water to come in contact with the wood or to puddle on the sill must be corrected as they contribute to deterioration of the window.

One clue to the location of areas of excessive moisture is the condition of the paint; therefore, each window should be examined for areas of paint failure. Since excessive moisture is detrimental to the paint bond, areas of paint blistering, cracking, flaking, and peeling usually identify points of water penetration, moisture saturation, and potential deterioration. Failure of the paint should not, however, be mistakenly interpreted as a sign that the wood is in poor condition and hence, irreparable. Wood is frequently in sound physical condition beneath unsightly paint. After noting areas of paint failure, the next step is to inspect the condition of the wood, particularly at the points identified during the paint examination.



Deterioration of poorly maintained windows usually begins on horizontal surfaces and at joints, where water can collect and saturate the wood. Photo: NPS files.

Each window should be examined for operational soundness beginning with the lower portions of the frame and sash. Exterior rainwater and interior condensation can flow downward along the window, entering and collecting at points where the flow is blocked. The sill, joints between the sill and jamb, corners of the bottom rails and muntin joints are typical points where water collects and deterioration begins. The operation of the window (continuous opening and closing over the years and seasonal temperature changes) weakens the joints, causing movement and slight separation. This process makes the joints more vulnerable to water which is readily absorbed into the endgrain of the wood. If severe deterioration exists in these areas, it will usually be apparent on visual inspection, but other less severely deteriorated areas of the wood may be tested by two traditional methods using a small ice pick.

An ice pick or an awl may be used to test wood for soundness. The technique is simply to jab the pick into a wetted wood surface at an angle and pry up a small section of the wood. Sound wood will separate in long fibrous splinters, but decayed wood will lift up in short irregular pieces due to the breakdown of fiber strength.

Another method of testing for soundness consists of pushing a sharp object into the wood, perpendicular to the surface. If deterioration has begun from the hidden side of a member and the core is badly decayed, the visible surface may appear to be sound wood. Pressure on the probe can force it through an apparently sound skin to penetrate deeply into decayed wood. This technique is especially useful for checking sills where visual access to the underside is restricted.

Following the inspection and analysis of the results, the scope of the necessary repairs will be evident and a plan for the rehabilitation can be formulated. Generally the actions necessary to return a window to "like new" condition will fall into three broad categories: **1) routine maintenance procedures**, **2) structural stabilization**, and **3) parts replacement**. These categories will be discussed in the following sections and will be referred to respectively as **Repair Class I**, **Repair Class II**, and **Repair Class III**. Each successive repair class represents an increasing level of difficulty, expense, and work time. Note that most of the points mentioned in Repair Class I are routine maintenance items and should be provided in a regular maintenance program for any building. The

neglect of these routine items can contribute to many common window problems.

Before undertaking any of the repairs mentioned in the following sections all sources of moisture penetration should be identified and eliminated, and all existing decay fungi destroyed in order to arrest the deterioration process. Many commercially available fungicides and wood preservatives are toxic, so it is extremely important to follow the manufacturer's recommendations for application, and store all chemical materials away from children and animals. After fungicidal and preservative treatment the windows may be stabilized, retained, and restored with every expectation for a long service life.

Repair Class I: Routine Maintenance

Repairs to wooden windows are usually labor intensive and relatively uncomplicated. On small scale projects this allows the do-it-yourselfer to save money by repairing all or part of the windows. On larger projects it presents the opportunity for time and money which might otherwise be spent on the removal and replacement of existing windows, to be spent on repairs, subsequently saving all or part of the material cost of new window units. Regardless of the actual costs, or who performs the work, the evaluation process described earlier will provide the knowledge from which to specify an appropriate work program, establish the work element priorities, and identify the level of skill needed by the labor force.



After removing paint from the seam between the interior stop and the jamb, the stop can be pried out and gradually worked loose using a pair of putty knives as shown. Photo: NPS files.

The routine maintenance required to upgrade a window to "like new" condition normally includes the following steps: 1) some degree of interior and exterior paint removal, 2) removal and repair of sash (including reglazing where necessary), 3) repairs to the frame, 4) weatherstripping and reinstallation of the sash, and 5) repainting. These operations are illustrated for a typical double-hung wooden window, but they may be adapted to other window types and styles as applicable.

Historic windows have usually acquired many layers of paint over time. Removal of excess layers or peeling and flaking paint will facilitate operation of the window and restore the clarity of the original detailing. Some degree of paint removal is also necessary as a first step in the proper surface preparation for subsequent refinishing (if paint color analysis is desired, it should be conducted prior to the onset of the paint removal).

There are several safe and effective techniques for removing paint from wood, depending on the amount of paint to be removed.



This historic double-hung window has many layers of paint, some cracked and missing putty, slight separation at the joints, broken sash cords, and one cracked pane. Photo: NPS files.

Paint removal should begin on the interior frames, being careful to remove the paint from the interior stop and the parting bead, particularly along the seam where these stops meet the jamb. This can be accomplished by running a utility knife along the length of the seam, breaking the paint bond. It will then be much easier to remove the stop, the parting bead and the sash. The interior stop may be initially loosened from the sash side to avoid visible scarring of the wood and then gradually pried loose using a pair of putty knives, working up and down the stop in small increments. With the stop removed, the lower or interior sash may be withdrawn. The sash cords should be detached from the sides of the sash and their ends may be pinned with a nail or tied in a knot to prevent them from falling into the weight pocket.



Sash can be removed and repaired in a convenient work area. Paint is being removed from this sash with a hot air gun. Photo: NPS files.

Removal of the upper sash on double-hung units is similar but the parting bead which holds it in place is set into a groove in the center of the stile and is thinner and more delicate than the interior stop. After removing any paint along the seam, the parting bead should be carefully pried out and worked free in the same manner as the interior stop. The upper sash can be removed in the same manner as the lower one and both sash taken to a convenient work area (in order to remove the sash the interior stop and parting bead need only be removed from one side of the window). Window openings can be covered with polyethylene sheets or plywood sheathing while the sash are out for repair.

The sash can be stripped of paint using appropriate techniques, but if any heat treatment is used, the glass should be removed or protected from the sudden temperature change which can cause breakage. An overlay of aluminum foil on gypsum board or asbestos can protect the glass from such rapid temperature change. It is important to protect the glass because it may be historic and often adds character to the window. Deteriorated putty should be removed manually, taking care not to damage the wood along the rabbet. If the glass is to be removed, the glazing points which hold the glass in place can be extracted and the panes numbered and removed for cleaning and reuse in the same openings. With the glass panes out, the remaining putty can be removed and the sash can be sanded, patched, and primed with a preservative primer. Hardened putty in the rabbets may be softened by heating with a soldering iron at the point of removal. Putty remaining on the glass may be softened by soaking the panes in linseed oil, and then removed with less risk of breaking the glass. Before reinstalling the glass, a bead of glazing compound or linseed oil putty should be laid around the rabbet to cushion and seal the glass. Glazing compound should only be used on wood which has been brushed with linseed oil and primed with an oil based primer or paint. The pane is then pressed into place and the glazing points are pushed into the wood around the perimeter of the pane.

The final glazing compound or putty is applied and beveled to complete the seal. The sash can be refinished as desired on the inside and painted on the outside as soon as a "skin" has formed on the putty, usually in 2 or 3 days. Exterior paint should cover the beveled glazing compound or putty and lap over onto the glass slightly to complete a weather-tight seal. After the proper curing times have elapsed for paint and putty, the sash will be ready for reinstallation.

While the sash are out of the frame, the condition of the wood in the jamb and sill can be evaluated. Repair and refinishing of the frame may proceed concurrently with repairs to the sash, taking advantage of the curing times for the paints and putty used on the sash. One of the most common work items is the replacement of the sash cords with

new rope cords or with chains. The weight pocket is frequently accessible through a door on the face of the frame near the sill, but if no door exists, the trim on the interior face may be removed for access. Sash weights may be increased for easier window operation by elderly or handicapped persons. Additional repairs to the frame and sash may include consolidation or replacement of deteriorated wood. Techniques for these repairs are discussed in the following sections.



Following the relatively simple repairs, the window is weathertight, like new in appearance, and serviceable for many years to come. Photo: NPS files.

The operations just discussed summarize the efforts necessary to restore a window with minor deterioration to "like new" condition. The techniques can be applied by an unskilled person with minimal training and experience. To demonstrate the practicality of this approach, and photograph it, a Technical Preservation Services staff member repaired a wooden double-hung, two over two window which had been in service over ninety years. The wood was structurally sound but the window had one broken pane, many layers of paint, broken sash cords and inadequate, worn-out weatherstripping. The staff member found that the frame could be stripped of paint and the sash removed quite easily. Paint, putty and glass removal required about one hour for each sash, and the reglazing of both sash was accomplished in about one hour. Weatherstripping of the sash and frame, replacement of the sash cords and reinstallation of the sash, parting bead, and stop required an hour and a half. These times refer only to individual operations; the entire process took several days due to the drying and curing times for putty, primer, and paint, however, work on other window units could have been in progress during these lag times.

Repair Class II: Stabilization

The preceding description of a window repair job focused on a unit which was operationally sound. Many windows will show some additional degree of physical deterioration, especially in the vulnerable areas mentioned earlier, but even badly damaged windows can be repaired using simple processes. Partially decayed wood can be waterproofed, patched, built-up, or consolidated and then painted to achieve a sound condition, good appearance, and greatly extended life. Three techniques for repairing partially decayed or weathered wood are discussed in this section, and all three can be accomplished using products available at most hardware stores.

One established technique for repairing wood which is split, checked or shows signs of rot, is to: **1)** dry the wood, **2)** treat decayed areas with a fungicide, **3)** waterproof with two or three applications of boiled linseed oil (applications every 24 hours), **4)** fill cracks and holes with putty, and **5)** after a "skin" forms on the putty, paint the surface. Care should be taken with the use of fungicide which is toxic. Follow the manufacturers' directions and use only on areas which will be painted. When using any technique of building up or patching a flat surface, the finished surface should be sloped slightly to carry water away from the window and not allow it to puddle. Caulking of the joints between the sill and the jamb will help reduce further water penetration.



This illustrates a two-part epoxy patching compound used to fill the surface of a weathered sill and rebuild the missing edge. When the epoxy cures, it can be sanded smooth and painted to achieve a durable and waterproof repair. Photo: NPS files.

When sills or other members exhibit surface weathering they may also be built-up using wood putties or homemade mixtures such as sawdust and resorcinol glue, or whiting and varnish. These mixtures can be built up in successive layers, then sanded, primed, and painted. The same caution about proper slope for flat surfaces applies to this technique.

Wood may also be strengthened and stabilized by consolidation, using semirigid epoxies which saturate the porous decayed wood and then harden. The surface of the consolidated wood can then be filled with a semirigid epoxy patching compound, sanded and painted. Epoxy patching compounds can be used to build up missing sections or decayed ends of members. Profiles can be duplicated using hand molds, which are created by pressing a ball of

patching compound over a sound section of the profile which has been rubbed with butcher's wax. This can be a very efficient technique where there are many typical repairs to be done. The process has been widely used and proven in marine applications; and proprietary products are available at hardware and marine supply stores. Although epoxy materials may be comparatively expensive, they hold the promise of being among the most durable and long lasting materials available for wood repair. More information on epoxies can be found in the publication "Epoxies for Wood Repairs in Historic Buildings," cited in the bibliography.

Any of the three techniques discussed can stabilize and restore the appearance of the window unit. There are times, however, when the degree of deterioration is so advanced that stabilization is impractical, and the only way to retain some of the original fabric is to replace damaged parts.

Repair Class III: Splices and Parts Replacement

When parts of the frame or sash are so badly deteriorated that they cannot be stabilized there are methods which permit the retention of some of the existing or original fabric. These methods involve replacing the deteriorated parts with new matching pieces, or splicing new wood into existing members. The techniques require more skill and are more expensive than any of the previously discussed alternatives. It is necessary to remove the sash and/or the affected parts of the frame and have a carpenter or woodworking mill reproduce the damaged or missing parts. Most millwork firms can duplicate parts, such as muntins, bottom rails, or sills, which can then be incorporated into the existing window, but it may be necessary to shop around because there are several factors controlling the practicality of this approach. Some woodworking mills do not like to repair old sash because nails or other foreign objects in the sash can damage expensive knives (which cost far more than their profits on small repair jobs); others do not have cutting knives to duplicate muntin profiles. Some firms prefer to concentrate on larger jobs with more profit potential, and some may not have a craftsman who can duplicate the parts. A little searching should locate a firm which will do the job, and at a reasonable price. If such a firm does not exist locally, there are firms which undertake this kind of repair and ship nationwide. It is possible, however, for the advanced do-it-yourselfer or craftsman with a table saw to duplicate moulding profiles using techniques discussed by Gordie Whittington in "Simplified Methods for Reproducing Wood Mouldings," *Bulletin of the Association for Preservation Technology*, Vol. III, No. 4, 1971, or illustrated more recently in *The Old House*, Time-Life Books, Alexandria, Virginia, 1979.

The repairs discussed in this section involve window frames which may be in very

deteriorated condition, possibly requiring removal; therefore, caution is in order. The actual construction of wooden window frames and sash is not complicated. Pegged mortise and tenon units can be disassembled easily, if the units are out of the building. The installation or connection of some frames to the surrounding structure, especially masonry walls, can complicate the work immeasurably, and may even require dismantling of the wall. It may be useful, therefore, to take the following approach to frame repair: **1)** conduct regular maintenance of sound frames to achieve the longest life possible, **2)** make necessary repairs in place, wherever possible, using stabilization and splicing techniques, and **3)** if removal is necessary, thoroughly investigate the structural detailing and seek appropriate professional consultation.

Another alternative may be considered if parts replacement is required, and that is sash replacement. If extensive replacement of parts is necessary and the job becomes prohibitively expensive it may be more practical to purchase new sash which can be installed into the existing frames. Such sash are available as exact custom reproductions, reasonable facsimiles (custom windows with similar profiles), and contemporary wooden sash which are similar in appearance. There are companies which still manufacture high quality wooden sash which would duplicate most historic sash. A few calls to local building suppliers may provide a source of appropriate replacement sash, but if not, check with local historical associations, the state historic preservation office, or preservation related magazines and supply catalogs for information.

If a rehabilitation project has a large number of windows such as a commercial building or an industrial complex, there may be less of a problem arriving at a solution. Once the evaluation of the windows is completed and the scope of the work is known, there may be a potential economy of scale. Woodworking mills may be interested in the work from a large project; new sash in volume may be considerably less expensive per unit; crews can be assembled and trained on site to perform all of the window repairs; and a few extensive repairs can be absorbed (without undue burden) into the total budget for a large number of sound windows. While it may be expensive for the average historic home owner to pay seventy dollars or more for a mill to grind a custom knife to duplicate four or five bad muntins, that cost becomes negligible on large commercial projects which may have several hundred windows.

Most windows should not require the extensive repairs discussed in this section. The ones which do are usually in buildings which have been abandoned for long periods or have totally lacked maintenance for years. It is necessary to thoroughly investigate the alternatives for windows which do require extensive repairs to arrive at a solution which retains historic significance and is also economically feasible. Even for projects requiring repairs identified in this section, if the percentage of parts replacement per window is low, or the number of windows requiring repair is small, repair can still be a cost effective solution.

Weatherization

A window which is repaired should be made as energy efficient as possible by the use of appropriate weatherstripping to reduce air infiltration. A wide variety of products are available to assist in this task. Felt may be fastened to the top, bottom, and meeting rails, but may have the disadvantage of absorbing and holding moisture, particularly at the bottom rail. Rolled vinyl strips may also be tacked into place in appropriate locations to reduce infiltration. Metal strips or new plastic spring strips may be used on the rails and, if space permits, in the channels between the sash and jamb. Weatherstripping is a historic treatment, but old weatherstripping (felt) is not likely to perform very satisfactorily. Appropriate contemporary weatherstripping should be considered an integral part of the repair process for windows. The use of sash locks installed on the meeting rail will insure that the sash are kept tightly closed so that the weatherstripping will function more effectively to reduce infiltration. Although such locks will not always be

historically accurate, they will usually be viewed as an acceptable contemporary modification in the interest of improved thermal performance.

Many styles of storm windows are available to improve the thermal performance of existing windows. The use of exterior storm windows should be investigated whenever feasible because they are thermally efficient, cost-effective, reversible, and allow the retention of original windows (see "Preservation Briefs: 3"). Storm window frames may be made of wood, aluminum, vinyl, or plastic; however, the use of unfinished aluminum storms should be avoided. The visual impact of storms may be minimized by selecting colors which match existing trim color. Arched top storms are available for windows with special shapes. Although interior storm windows appear to offer an attractive option for achieving double glazing with minimal visual impact, the potential for damaging condensation problems must be addressed. Moisture which becomes trapped between the layers of glazing can condense on the colder, outer prime window, potentially leading to deterioration. The correct approach to using interior storms is to create a seal on the interior storm while allowing some ventilation around the prime window. In actual practice, the creation of such a durable, airtight seal is difficult.

Window Replacement

Although the retention of original or existing windows is always desirable and this Brief is intended to encourage that goal, there is a point when the condition of a window may clearly indicate replacement. The decision process for selecting replacement windows should not begin with a survey of contemporary window products which are available as replacements, but should begin with a look at the windows which are being replaced. Attempt to understand the contribution of the window(s) to the appearance of the facade including: **1)** the pattern of the openings and their size; **2)** proportions of the frame and sash; **3)** configuration of window panes; **4)** muntin profiles; **5)** type of wood; **6)** paint color; **7)** characteristics of the glass; and **8)** associated details such as arched tops, hoods, or other decorative elements. Develop an understanding of how the window reflects the period, style, or regional characteristics of the building, or represents technological development.

Armed with an awareness of the significance of the existing window, begin to search for a replacement which retains as much of the character of the historic window as possible. There are many sources of suitable new windows. Continue looking until an acceptable replacement can be found. Check building supply firms, local woodworking mills, carpenters, preservation oriented magazines, or catalogs or suppliers of old building materials, for product information. Local historical associations and state historic preservation offices may be good sources of information on products which have been used successfully in preservation projects.

Consider energy efficiency as one of the factors for replacements, but do not let it dominate the issue. Energy conservation is no excuse for the wholesale destruction of historic windows which can be made thermally efficient by historically and aesthetically acceptable means. In fact, a historic wooden window with a high quality storm window added should thermally outperform a new double-glazed metal window which does not have thermal breaks (insulation between the inner and outer frames intended to break the path of heat flow). This occurs because the wood has far better insulating value than the metal, and in addition many historic windows have high ratios of wood to glass, thus reducing the area of highest heat transfer. One measure of heat transfer is the U-value, the number of Btu's per hour transferred through a square foot of material. When comparing thermal performance, the lower the U-value the better the performance. According to ASHRAE 1977 Fundamentals, the U-values for single glazed wooden windows range from 0.88 to 0.99. The addition of a storm window should reduce these figures to a range of 0.44 to 0.49. A non-thermal break, double-glazed metal window has a U-value of about 0.6.

Conclusion

Technical Preservation Services recommends the retention and repair of original windows whenever possible. We believe that the repair and weatherization of existing wooden windows is more practical than most people realize, and that many windows are unfortunately replaced because of a lack of awareness of techniques for evaluation, repair, and weatherization. Wooden windows which are repaired and properly maintained will have greatly extended service lives while contributing to the historic character of the building. Thus, an important element of a building's significance will have been preserved for the future.

Additional Reading

ASHRAE Handbook 1977 Fundamentals. New York: American Society of Heating, Refrigerating and Air-conditioning Engineers, 1978 (chapter 26).

Ferro, Maximillian. *Preservation: Present Pathway to Fall River's Future*. Fall River, Massachusetts: City of Fall River, 1979 (chapter 7).

"Fixing Double-hung Windows." *Old House Journal* (no. 12, 1979): 135.

Morrison, Hugh. *Early American Architecture*. New York: Oxford University Press, 1952.

Phillips, Morgan, and Selwyn, Judith. *Epoxies for Wood Repairs in Historic Buildings*. Washington, DC: Technical Preservation Services, U.S. Department of the Interior (Government Printing Office, Stock No. 024016000951), 1978.

Rehab Right. Oakland, California: City of Oakland Planning Department, 1978 (pp. 7883).

"Sealing Leaky Windows." *Old House Journal* (no. 1, 1973): 5.

Smith, Baird M. "Preservation Briefs: 3 Conserving Energy in Historic Buildings." Washington, DC: Technical Preservation Services, U.S. Department of the Interior, 1978.

Weeks, Kay D. and David W. Look, "Preservation Briefs: 10 Exterior Paint Problems on Historic Woodwork." Washington, DC: Technical Preservation Services, U.S. Department of the Interior, 1982.

Washington, D.C. 1981

Home page logo: Historic six-over-six windows--preserved. Photo: NPS files.

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

[Order Brief](#) | [Technical Preservation Services](#) | [Preservation Briefs](#) | [Search](#) | [Questions/Answers](#)

KDW

10 Preservation Briefs

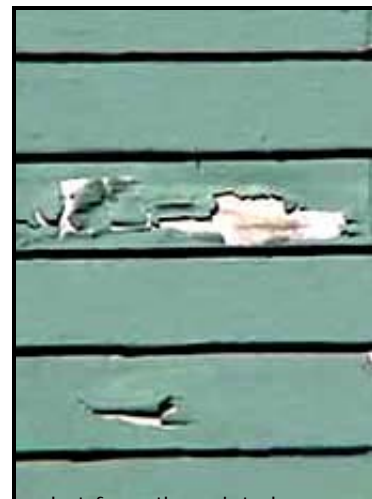
Technical Preservation Services

National Park Service
U.S. Department of the Interior

Exterior Paint Problems on Historic Woodwork

Kay D. Weeks and David W. Look, AIA

- » [Purposes of Exterior Paint](#)
- » [Treating Paint Problems](#)
- » [Justification for Paint Removal](#)
- » [Paint Removal Precautions](#)
- » [Repainting Historic Buildings for Cosmetic Reasons](#)
- » [Conditions/Recommended Treatments](#)
- » [Selecting the Safest Method to Remove Paint](#)
- » [General Paint Type Recommendations](#)
- » [Conclusion](#)
- » [Reading List](#)



A NOTE TO OUR USERS: The web versions of the **Preservation Briefs** differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

A cautionary approach to paint removal is included in the guidelines to the *Secretary of the Interior Standards for Rehabilitation*. Removing paints down to bare wood surfaces using harsh methods can permanently damage those surfaces; therefore such methods are not recommended. Also, total removal obliterates evidence of the historical paints and their sequence and architectural context.

This Brief expands on that advice for the architect, building manager, contractor, or homeowner by identifying and describing common types of paint surface conditions and failures, then recommending appropriate treatments for preparing exterior wood surfaces for repainting to assure the best adhesion and greatest durability of the new paint.

Although the Brief focuses on responsible methods of "paint removal," several paint surface conditions will be described which do not require any paint removal, and still others which can be successfully handled by limited paint removal. In all cases, the information is intended to address the concerns related to exterior wood. It will also be generally assumed that, because houses built before 1950 involve one or more layers of lead-based paint, the majority of conditions warranting paint removal will mean dealing with this toxic substance along with the dangers of the paint removal tools and chemical strippers themselves.

Purposes of Exterior Paint



Paint applied to exterior wood must withstand yearly extremes of both temperature and humidity. While never expected to be more than a temporary physical shield--requiring reapplication every 5 to 8 years--its importance should not be minimized. Because one of the main causes of wood deterioration is moisture penetration, a primary



The paint on this exterior decorative feature is sound.
Photo: NPS files.

purpose for painting wood is to exclude such moisture, thereby slowing deterioration not only of a building's exterior siding and decorative features but, ultimately, its underlying structural members. Another important purpose for painting wood is, of course, to define and accent architectural features and to improve appearance.

Treating Paint Problems in Historic Buildings

Exterior paint is constantly deteriorating through the processes of weathering, but in a program of regular maintenance--assuming all other building systems are functioning properly--surfaces can be cleaned, lightly scraped, and hand sanded in preparation for a new finish coat. Unfortunately, these are ideal conditions. More often, complex maintenance problems are inherited by owners of historic buildings, including areas of paint that have failed beyond the point of mere cleaning, scraping, and hand sanding (although much so-called "paint failure" is attributable to interior or exterior moisture problems or surface preparation and application mistakes with previous coats).

Although paint problems are by no means unique to historic buildings, treating multiple layers of hardened, brittle paint on complex, ornamental--and possibly fragile--exterior wood surfaces necessarily requires an extremely cautious approach. In the case of recent construction, this level of concern is not needed because the wood is generally less detailed and, in addition, retention of the sequence of paint layers as a partial record of the building's history is not an issue.

When historic buildings are involved, however, a special set of problems arises--varying in complexity depending upon their age, architectural style, historical importance, and physical soundness of the wood--which must be carefully evaluated so that decisions can be made that are sensitive to the longevity of the resource.



When the protective and decorative paint finish was removed and an inappropriate clear finish applied, the exterior character of the building was altered. Photo: NPS files.

Justification for Paint Removal

At the outset of this Brief, it must be emphasized that removing paint from historic buildings--with the exception of cleaning, light scraping, and hand sanding as part of routine maintenance--should be avoided unless absolutely essential. ***Once conditions warranting removal have been identified the general approach should be to remove paint to the next sound layer using the gentlest means possible, then to repaint.*** Practically speaking as well, paint can adhere just as effectively to existing paint as to bare wood, providing the previous coats of paint are also adhering uniformly and tightly to the wood and the surface is properly prepared for repainting-- cleaned of dirt and chalk and dulled by sanding.

But, if painted exterior wood surfaces display continuous patterns of deep cracks or if they are extensively blistering and peeling so that bare wood is visible, then the old paint should be completely removed before repainting. The only other justification for removing all previous layers of paint is if doors, shutters, or windows have literally been "painted shut," or if new wood is being pieced-in adjacent to old painted wood and a smooth transition is desired.

Paint Removal Precautions

Because paint removal is a difficult and painstaking process, a number of costly, regrettable experiences have occurred--and continue to occur--for both the historic building and the building owner. Historic buildings have been set on fire with blow torches; wood irreversibly scarred by sandblasting or by harsh mechanical devices such as rotary sanders and rotary wire strippers; and layers of historic paint inadvertently and unnecessarily removed. In addition, property owners, using techniques that substitute speed for safety, have been injured by toxic lead vapors or dust from the paint they were trying to remove or by misuse of the paint removers themselves.

Owners of historic properties considering paint removal should also be aware of the amount of time and labor involved. While removing damaged layers of paint from a door or porch railing might be readily accomplished within a reasonable period of time by one or two people, removing paint from larger areas of a building can, without professional assistance, easily become unmanageable and produce less than satisfactory results. The amount of work involved in any paint removal project must therefore be analyzed on a case-by-case basis. Hiring qualified professionals will often be a cost-effective decision due to the expense of materials, the special equipment required, and the amount of time involved. Further, paint removal companies experienced in dealing with the inherent health and safety dangers of paint removal should have purchased such protective devices as are needed to mitigate any dangers and should also be aware of State or local environmental and/or health regulations for hazardous waste disposal.

All in all, paint removal is a messy, expensive, and potentially dangerous aspect of rehabilitating or restoring historic buildings and should not be undertaken without careful thought concerning first, its necessity, and second, which of the available recommended methods is the safest and most appropriate for the job at hand.

Re-painting Historic Buildings for Cosmetic Reasons

If existing exterior paint on wood siding, eaves, window sills, sash, and shutters, doors, and decorative features shows no evidence of paint deterioration such as chalking, blistering, peeling, or cracking, then there is no physical reason to repaint, much less remove paint! Nor is color fading, of itself, sufficient justification to repaint a historic building.

The decision to repaint may not be based altogether on paint failure. Where there is a new owner, or even where ownership has remained constant through the years, taste in colors often changes. Therefore, if repainting is primarily to alter a building's primary and accent colors, a technical factor of paint accumulation should be taken into consideration.



When the paint on the wood windows became too thick, it was removed and the window repainted.

When paint builds up to a thickness of approximately 1/16" (approximately 16 to 30 layers), one or more extra coats of paint may be enough to trigger cracking and peeling in limited or even widespread areas of the building's surface. This results because excessively thick paint is less able to withstand the shrinkage or pull of an additional coat as it dries and is also less able to tolerate thermal stresses. Thick paint invariably fails at the weakest point of adhesion--the oldest layers next to the wood. Cracking and peeling follow. Therefore, if there are no signs of paint failure, it may be somewhat risky to add still another layer of unneeded paint simply for color's sake (extreme changes in color may also require more than one coat to provide proper hiding power and full color). When paint appears to be nearing the critical thickness, a change of accent colors (that is, just to limited portions of the trim) might be an acceptable compromise without chancing cracking and peeling of paint on wooden siding.

If the decision to repaint is nonetheless made, the "new" color or

Photo: NPS files.

colors should, at a minimum, be appropriate to the style and setting of the building. On the other hand, where the intent is to restore or accurately reproduce the colors originally used or those from a significant period in the building's evolution, they should be based on the results of a paint analysis.

Identification of Exterior Paint Surface Conditions/Recommended Treatments

It is assumed that a preliminary check will already have been made to determine, first, that the painted exterior surfaces are indeed wood--and not stucco, metal, or other wood substitutes--and second, that the wood has not decayed so that repainting would be superfluous. For example, if any area of bare wood such as window sills has been exposed for a long period of time to standing water, wood rot is a strong possibility. Repair or replacement of deteriorated wood should take place before repainting. After these two basic issues have been resolved, the surface condition identification process may commence.

The historic building will undoubtedly exhibit a variety of exterior paint surface conditions. For example, paint on the wooden siding and doors may be adhering firmly; paint on the eaves peeling; and paint on the porch balusters and window sills cracking and alligating. The accurate identification of each paint problem is therefore the first step in planning an appropriate overall solution.

Paint surface conditions can be grouped according to their relative severity: CLASS I conditions include minor blemishes or dirt collection and generally require no paint removal; CLASS II conditions include failure of the top layer or layers of paint and generally require limited paint removal; and CLASS III conditions include substantial or multiple-layer failure and generally require total paint removal. It is precisely because conditions will vary at different points on the building that a careful inspection is critical. Each item of painted exterior woodwork (i.e., siding, doors, windows, eaves, shutters, and decorative elements) should be examined early in the planning phase and surface conditions noted.



The problem evidenced here by mossy growth and deteriorated wood must be resolved and the wood allowed to dry out before the wood is repainted. Photo: NPS files.

CLASS I Exterior Surface Conditions Generally Requiring No Paint Removal

Dirt, Soot, Pollution, Cobwebs, Insect Cocoons, etc.

Cause of Condition

Environmental "grime" or organic matter that tends to cling to painted exterior surfaces and, in particular, protected surfaces such as eaves, do not constitute a paint problem unless painted over rather than removed prior to repainting. If not removed, the surface deposits can be a barrier to proper adhesion and cause peeling.

Recommended Treatment

Most surface matter can be loosened by a strong, direct stream of water from the nozzle of a garden hose. Stubborn dirt and soot will need to be scrubbed off using 1/2 cup of household detergent in a gallon of water with a medium soft bristle brush. The cleaned surface should then be rinsed thoroughly, and permitted to dry before further inspection to determine if repainting is necessary. Quite often, cleaning provides a satisfactory enough result to postpone repainting.

Mildew

Cause of Condition

Mildew is caused by fungi feeding on nutrients contained in the paint film or on dirt adhering to any surface. Because moisture is the single most important factor in its growth, mildew tends to thrive in areas where dampness and lack of sunshine are problems such as window sills, under eaves, around gutters and downspouts, on the north side of buildings, or in shaded areas near shrubbery. It may sometimes be difficult to distinguish mildew from dirt, but there is a simple test to differentiate: if a drop of household bleach is placed on the suspected surface, mildew will immediately turn white whereas dirt will continue to look like dirt.

Recommended Treatment

Because mildew can only exist in shady, warm, moist areas, attention should be given to altering the environment that is conducive to fungal growth. The area in question may be shaded by trees which need to be pruned back to allow sunlight to strike the building; or may lack rain gutters or proper drainage at the base of the building. If the shady or moist conditions can be altered, the mildew is less likely to reappear. A recommended solution for removing mildew consists of one cup non-ammoniated detergent, one quart household bleach, and one gallon water. When the surface is scrubbed with this solution using a medium soft brush, the mildew should disappear; however, for particularly stubborn spots, an additional quart of bleach may be added. After the area is mildew-free, it should then be rinsed with a direct stream of water from the nozzle of a garden hose, and permitted to dry thoroughly. When repainting, specially formulated "mildew-resistant" primer and finish coats should be used.

Excessive Chalking

Cause of Condition

Chalking--or powdering of the paint surface--is caused by the gradual disintegration of the resin in the paint film. (The amount of chalking is determined both by the formulation of the paint and the amount of ultraviolet light to which the paint is exposed.) In moderation, chalking is the ideal way for a paint to "age," because the chalk, when rinsed by rainwater, carries discoloration and dirt away with it and thus provides an ideal surface for repainting. In excess, however, it is not desirable because the chalk can wash down onto a surface of a different color beneath the painted area and cause streaking as well as rapid disintegration of the paint film itself. Also, if a paint contains too much pigment for the amount of binder (as the old white lead carbonate/oil paints often did), excessive chalking can result.

Recommended Treatment

The chalk should be cleaned off with a solution of 1/2 cup household detergent to one gallon water, using a medium soft bristle brush. After scrubbing to remove the chalk, the surface should be rinsed with a direct stream of water from the nozzle of a garden hose, allowed to dry thoroughly, (but not long enough for the chalking process to recur) and repainted, using a non-chalking paint.

Staining

Cause of Condition

Staining of paint coatings usually results from excess moisture reacting with materials within the wood substrate. There are two common types of staining, neither of which requires paint removal. The most prevalent type of stain is due to the oxidation or

rusting of iron nails or metal (iron, steel, or copper) anchorage devices. A second type of stain is caused by a chemical reaction between moisture and natural extractives in certain woods (red cedar or redwood) which results in a surface deposit of colored matter. This is most apt to occur in new replacement wood within the first 10-15 years.

Recommended Treatment

In both cases, the source of the stain should first be located and the moisture problem corrected.

When stains are caused by rusting of the heads of nails used to attach shingles or siding to an exterior wall or by rusting or oxidizing iron, steel, or copper anchorage devices adjacent to a painted surface, the metal objects themselves should be hand sanded and coated with a rust-inhibitive primer followed by two finish coats. (Exposed nail heads should ideally be countersunk, spot primed, and the holes filled with a high quality wood filler except where exposure of the nail head was part of the original construction system or the wood is too fragile to withstand the countersinking procedure.)

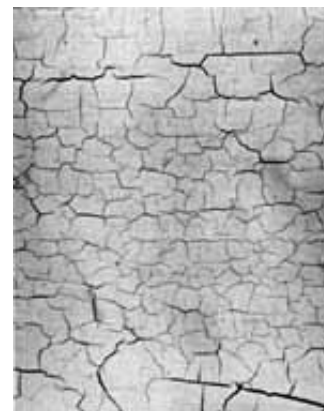
Discoloration due to color extractives in replacement wood can usually be cleaned with a solution of equal parts denatured alcohol and water. After the affected area has been rinsed and permitted to dry, a "stainblocking primer" especially developed for preventing this type of stain should be applied (two primer coats are recommended for severe cases of bleeding prior to the finish coat). Each primer coat should be allowed to dry at least 48 hours.

CLASS II Exterior Surface Conditions Generally Requiring Limited Paint Removal

Crazing

Cause of Condition

Crazing--fine, jagged interconnected breaks in the top layer of paint--results when paint that is several layers thick becomes excessively hard and brittle with age and is consequently no longer able to expand and contract with the wood in response to changes in temperature and humidity. As the wood swells, the bond between paint layers is broken and hairline cracks appear. Although somewhat more difficult to detect as opposed to other more obvious paint problems, it is well worth the time to scrutinize all surfaces for crazing. If not corrected, exterior moisture will enter the crazed surface, resulting in further swelling of the wood and, eventually, deep cracking and alligatoring, a Class III condition which requires total paint removal.



Crazing--or surface cracking--is an exterior surface condition which can be successfully treated by sanding and painting. Photo: Courtesy, National Decorating Products Association.

Recommended Treatment

Crazing can be treated by hand or mechanically sanding the surface, then repainting. Although the hairline cracks may tend to show through the new paint, the surface will be protected against exterior moisture penetration.

Intercoat Peeling



Cause of Condition

Intercoat peeling can be the result of improper surface preparation prior to the last repainting. This most often occurs in protected areas such as eaves and covered porches because



Here, a latex top coat was applied directly over old oil paint, resulting in intercoat peeling. The latex was unable to adhere. If latex is used over oil, an oil-base primer should be applied first. Photo: Mary L. Oehrlein, AIA.

these surfaces do not receive a regular rinsing from rainfall, and salts from airborne pollutants thus accumulate on the surface. If not cleaned off, the new paint coat will not adhere properly and that layer will peel.

Another common cause of intercoat peeling is incompatibility between paint types. For example, if oil paint is applied over latex paint, peeling of the top coat can sometimes result since, upon aging, the oil paint becomes harder and less elastic than the latex paint. If latex paint is applied over old, chalking oil paint, peeling can also occur because the latex paint is unable to penetrate the chalky surface and adhere.

Recommended Treatment

First, where salts or impurities have caused the peeling, the affected area should be washed down thoroughly after scraping, then wiped dry. Finally, the surface should be hand or mechanically sanded, then repainted.

Where peeling was the result of using incompatible paints, the peeling top coat should be scraped and hand or mechanically sanded. Application of a high quality oil type exterior primer will provide a surface over which either an oil or a latex topcoat can be successfully used.

Solvent Blistering

Cause of Condition

Solvent blistering, the result of a less common application error, is not caused by moisture, but by the action of ambient heat on paint solvent or thinners in the paint film. If solventrich paint is applied in direct sunlight, the top surface can dry too quickly and, as a result, solvents become trapped beneath the dried paint film. When the solvent vaporizes, it forces its way through the paint film, resulting in surface blisters. This problem occurs more often with dark colored paints because darker colors absorb more heat than lighter ones. To distinguish between solvent blistering and blistering caused by moisture, a blister should be cut open. If another layer of paint is visible, then solvent blistering is likely the problem whereas if bare wood is revealed, moisture is probably to blame. Solvent blisters are generally small.

Recommended Treatment

Solvent-blistered areas can be scraped, hand or mechanically sanded to the next sound layer, then repainted. In order to prevent blistering of painted surfaces, paint should not be applied in direct sunlight.

Wrinkling

Cause of Condition

Another error in application that can easily be avoided is wrinkling. This occurs when the top layer of paint dries before the layer underneath. The top layer of paint actually moves as the paint underneath (a primer, for example) is drying. Specific causes of wrinkling include: (1) applying paint too thick; (2) applying a second coat before the first one dries; (3) inadequate brushing out; and (4) painting in temperatures higher than recommended by the manufacturer.



Wrinkled layers can generally

Recommended Treatment

The wrinkled layer can be removed by scraping followed by hand or mechanical sanding to provide as even a surface as possible, then repainted following manufacturer's application instructions.

be removed by scraping and sanding as opposed to total paint removal. Photo: Courtesy, National Decorating Products Association.

CLASS III Exterior Surface Conditions Generally Requiring Total Paint Removal

If surface conditions are such that the majority of paint will have to be removed prior to repainting, it is suggested that a small sample of intact paint be left in an inconspicuous area either by covering the area with a metal plate, or by marking the area and identifying it in some way. (When repainting does take place, the sample should not be painted over). This will enable future investigators to have a record of the building's paint history.

Peeling



Extensively deteriorated paint needs to be removed to bare wood, then primed and re-painted. Photo: NPS files.

Cause of Condition

Peeling to bare wood is most often caused by excess interior or exterior moisture that collects behind the paint film, thus impairing adhesion. Generally beginning as blisters, cracking and peeling occur as moisture causes the wood to swell, breaking the adhesion of the bottom layer.

Recommended Treatment

There is no sense in repainting before dealing with the moisture problems because new paint will simply fail. Therefore, the first step in treating peeling is to locate and remove the source or sources of the moisture, not only because moisture will jeopardize the protective coating of paint but because, if left unattended, it can ultimately cause permanent damage to the wood. Excess interior moisture

should be removed from the building through installation of exhaust fans and vents. Exterior moisture should be eliminated by correcting the following conditions prior to repainting: faulty flashing; leaking gutters; defective roof shingles; cracks and holes in siding and trim; deteriorated caulking in joints and seams; and shrubbery growing too close to painted wood. After the moisture problems have been solved, the wood must be permitted to dry out thoroughly. The damaged paint can then be scraped off with a putty knife, hand or mechanically sanded, primed, and repainted.

Cracking/Alligatoring

Cause of Condition

Cracking and alligatoring are advanced stages of crazing. Once the bond between layers has been broken due to intercoat paint failure, exterior moisture is able to penetrate the surface cracks, causing the wood to swell and deeper cracking to take place.

This process continues until cracking, which forms parallel to grain, extends to bare wood. Ultimately, the cracking becomes an overall pattern of horizontal and vertical breaks in the paint layers that looks like reptile skin; hence, "alligatoring." In advanced stages of cracking and alligatoring, the surfaces will also flake badly.

Recommended Treatment

If cracking and alligatoring are present only in the top layers they can probably be

scraped, hand or mechanically sanded to the next sound layer, then repainted. However, if cracking and/or alligatoring have progressed to bare wood and the paint has begun to flake, it will need to be totally removed. Methods include scraping or paint removal with the electric heat plate, electric heat gun, or chemical strippers, depending on the particular area involved. Bare wood should be primed within 48 hours then repainted.

Selecting the Appropriate/Safest Method to Remove Paint

After having presented the "hierarchy" of exterior paint surface conditions--from a mild condition such as mildewing which simply requires cleaning prior to repainting to serious conditions such as peeling and alligatoring which require total paint removal--one important thought bears repeating: if a paint problem has been identified that warrants either limited or total paint removal, the gentlest method possible for the particular wooden element of the historic building should be selected from the many available methods.

The treatments recommended--based upon field testing as well as onsite monitoring of Department of Interior grant-in-aid and certification of rehabilitation projects--are therefore those which take three overriding issues into consideration (1) the continued protection and preservation of the historic exterior woodwork; (2) the retention of the sequence of historic paint layers; and (3) the health and safety of those individuals performing the paint removal. By applying these criteria, it will be seen that no paint removal method is without its drawbacks and all recommendations are qualified in varying degrees.

Methods for Removing Paint

After a particular exterior paint surface condition has been identified, the next step in planning for repainting--if paint removal is required--is selecting an appropriate method for such removal.

The method or methods selected should be suitable for the specific paint problem as well as the particular wooden element of the building. Methods for paint removal can be divided into three categories (frequently, however, a combination of the three methods is used). Each method is defined below, then discussed further and specific recommendations made:

Abrasive--"Abrading" the painted surface by manual and/or mechanical means such as scraping and sanding. Generally used for surface preparation and limited paint removal.

Thermal--Softening and raising the paint layers by applying heat followed by scraping and sanding. Generally used for total paint removal.

Chemical--Softening of the paint layers with chemical strippers followed by scraping and sanding. Generally used for total paint removal.

Abrasive Methods (Manual)

If conditions have been identified that require limited paint removal such as crazing, intercoat peeling, solvent blistering, and wrinkling, scraping and hand sanding should be the first methods employed before using mechanical means. Even in the case of more serious conditions such as peeling--where the damaged paint is weak and already sufficiently loosened from the wood surface --scraping and hand sanding may be all that is needed prior to repainting.

Recommended Abrasive Methods (Manual)

Putty Knife/Paint Scraper: Scraping is usually accomplished with either a putty knife or

a paint scraper, or both. Putty knives range in width from one to six inches and have a beveled edge. A putty knife is used in a pushing motion going under the paint and working from an area of loose paint toward the edge where the paint is still firmly adhered and, in effect, "beveling" the remaining layers so that as smooth a transition as possible is made between damaged and undamaged areas.

Paint scrapers are commonly available in 1-5/16, 2-1/2, and 3-1/2 inch widths and have replaceable blades. In addition, profiled scrapers can be made specifically for use on moldings. As opposed to the putty knife, the paint scraper is used in a pulling motion and works by raking the damaged areas of paint away.

The obvious goal in using the putty knife or the paint scraper is to selectively remove the affected layer or layers of paint; however, both of these tools, particularly the paint scraper with its hooked edge, must be used with care to properly prepare the surface and to avoid gouging the wood.

Sandpaper/Sanding Block/Sanding sponge: After manually removing the damaged layer or layers by scraping, the uneven surface (due to the almost inevitable removal of varying numbers of paint layers in a given area) will need to be smoothed or "feathered out" prior to repainting. As stated before, hand sanding, as opposed to harsher mechanical sanding, is recommended if the area is relatively limited. A coarse grit, open-coat flint sandpaper--the least expensive kind--is useful for this purpose because, as the sandpaper clogs with paint it must be discarded and this process repeated until all layers adhere uniformly.

Blocks made of wood or hard rubber and covered with sandpaper are useful for handsanding flat surfaces. Sanding sponges--rectangular sponges with an abrasive aggregate on their surfaces--are also available for detail work that requires reaching into grooves because the sponge easily conforms to curves and irregular surfaces. All sanding should be done with the grain.

Summary of Abrasive Methods (Manual)

Recommended: Putty knife, paint scraper, sandpaper, sanding block, sanding sponge.

Applicable areas of building: All areas. For use on: Class I, Class II, and Class III conditions.

Health/Safety factors: Take precautions against lead dust, eye damage; dispose of lead paint residue properly.

Abrasive Methods (Mechanical)

If hand sanding for purposes of surface preparation has not been productive or if the affected area is too large to consider hand sanding by itself, mechanical abrasive methods, i.e., power-operated tools may need to be employed; however, it should be noted that the majority of tools available for paint removal can cause damage to fragile wood and must be used with great care.

Recommended Abrasive Methods (Mechanical)

Orbital sander: Designed as a finishing or smoothing tool--not for the removal of multiple layers of paint--the orbital sander is thus recommended when limited paint removal is required prior to repainting. Because it sands in a small diameter circular motion (some models can also be switched to a back-and-forth vibrating action), this tool is particularly effective for "feathering" areas where paint has first been scraped. The abrasive surface varies from about 3x7 inches to 4x9 inches and sandpaper is attached either by clamps or sliding clips. A medium grit, open-coat aluminum oxide sandpaper should be used; fine sandpaper clogs up so quickly that it is ineffective for smoothing

paint.

Belt sander: A second type of power tool--the belt sander--can also be used for removing limited layers of paint but, in this case, the abrasive surface is a continuous belt of sandpaper that travels at high speeds and consequently offers much less control than the orbital sander. Because of the potential for more damage to the paint or the wood, use of the belt sander (also with a medium grit sandpaper) should be limited to flat surfaces and only skilled operators should be permitted to operate it within a historic preservation project.

Not Recommended

Rotary Drill Attachments: Rotary drill attachments such as the rotary sanding disc and the rotary wire stripper should be avoided. The disc sander--usually a disc of sandpaper about 5 inches in diameter secured to a rubber based attachment which is in turn connected to an electric drill or other motorized housing--can easily leave visible circular depressions in the wood which are difficult to hide, even with repainting. The rotary wire stripper--clusters of metals wires similarly attached to an electric drill-type unit--can actually shred a wooden surface and is thus to be used exclusively for removing corrosion and paint from metals.

Waterblasting: Waterblasting above 600 p.s.i. to remove paint is not recommended because it can force water into the woodwork rather than cleaning loose paint and grime from the surface; at worst, high pressure waterblasting causes the water to penetrate exterior sheathing and damages interior finishes. A detergent solution, a medium soft bristle brush, and a garden hose for purposes of rinsing, is the gentlest method involving water and is recommended when cleaning exterior surfaces prior to repainting.

Sandblasting: Finally--and undoubtedly most vehemently "not recommended"--sandblasting painted exterior woodwork will indeed remove paint, but at the same time can scar wooden elements beyond recognition. As with rotary wire strippers, sandblasting erodes the soft porous fibers (spring wood) faster than the hard, dense fibers (summer wood), leaving a pitted surface with ridges and valleys. Sandblasting will also erode projecting areas of carvings and moldings before it removes paint from concave areas. Hence, this abrasive method is potentially the most damaging of all possibilities, even if a contractor promises that blast pressure can be controlled so that the paint is removed without harming the historic exterior woodwork. (For Additional Information, See Preservation Briefs 6, "Dangers of Abrasive Cleaning to Historic Buildings".)

Summary of Abrasive Methods (Mechanical)

Recommended: Orbital sander, belt sander (skilled operator only).

Applicable areas of building: Flat surfaces, i.e., siding, eaves, doors, window sills.

For use on: Class II and Class III conditions.

Health/Safety factors: Take precautions against lead dust and eye damage; dispose of lead paint residue properly.

Not Recommended: Rotary drill attachments, high pressure waterblasting, sandblasting.

Thermal Methods

Where exterior surface conditions have been identified that warrant total paint removal such as peeling, cracking, or alligatoring, two thermal devices--the electric heat plate and the electric heat gun--have proven to be quite successful for use on different wooden elements of the historic building. One thermal method--the blow torch--is not recommended because it can scorch the wood or even burn the building down!



A heat plate was used on the cornice to remove paint. Photo: NPS files.

Recommended Thermal Methods

Electric heat plate: The electric heat plate operates between 500 and 800 degrees Fahrenheit (not hot enough to vaporize lead paint), using about 15 amps of power. The plate is held close to the painted exterior surface until the layers of paint begin to soften and blister, then moved to an adjacent location on the wood while the softened paint is scraped off with a putty knife (it should be noted that the heat plate is most successful when the paint is very thick!). With practice, the operator can successfully move the heat plate evenly across a flat surface such as wooden siding or a window sill or door in a continuous motion, thus lessening the risk of scorching the wood in an attempt to reheat

the edge of the paint sufficiently for effective removal. Since the electric heat plate's coil is "red hot," extreme caution should be taken to avoid igniting clothing or burning the skin. If an extension cord is used, it should be a heavy-duty cord (with 3-prong grounded plugs). A heat plate could overload a circuit or, even worse, cause an electrical fire; therefore, it is recommended that this implement be used with a single circuit and that a fire extinguisher always be kept close at hand.

Electric heat gun: The electric heat gun (electric hot-air gun) looks like a hand-held hairdryer with a heavy-duty metal case. It has an electrical resistance coil that typically heats between 500 and 750 degrees Fahrenheit and, again, uses about 15 amps of power which requires a heavy-duty extension cord. There are some heat guns that operate at higher temperatures but they should not be purchased for removing old paint because of the danger of lead paint vapors. The temperature is controlled by a vent on the side of the heat gun. When the vent is closed, the heat increases. A fan forces a stream of hot air against the painted woodwork, causing a blister to form. At that point, the softened paint can be peeled back with a putty knife. It can be used to best advantage when a paneled door was originally varnished, then painted a number of times. In this case, the paint will come off quite easily, often leaving an almost pristine varnished surface behind. Like the heat plate, the heat gun works best on a heavy paint buildup. (It is, however, not very successful on only one or two layers of paint or on surfaces that have only been varnished. The varnish simply becomes sticky and the wood scorches.)



The nozzle on the electric heat gun permits hot air to be aimed into cavities on solid decorative surfaces, such as this carriage house door. After the paint has been sufficiently softened, it can be carefully removed with a scraper. Photo: NPS files.

Although the heat gun is heavier and more tiring to use than the heat plate, it is particularly effective for removing paint from detail work because the nozzle can be directed at curved and intricate surfaces. Its use is thus more limited than the heat plate, and most successfully used in conjunction with the heat plate. For example, it takes about two to three hours to strip a paneled door with a heat gun, but if used in combination with a heat plate for the large, flat area, the time can usually be cut in half. Although a heat gun seldom scorches wood, it can cause fires (like the blow torch) if aimed at the dusty cavity between the exterior sheathing and siding and interior lath and plaster. A fire may smolder for hours before flames break through to the surface. Therefore, this thermal device is best suited for use on solid decorative elements, such as molding, balusters, fretwork, or "gingerbread."

Not Recommended

Blow Torch: Blow torches, such as hand-held propane or butane torches, were widely used in the past for paint removal because other thermal devices were not available. With this technique, the flame is directed toward the paint until it begins to bubble and loosen from the surface. Then the paint is scraped off with a putty knife. Although this is a relatively fast process, at temperatures between 3200 and 3800 degrees Fahrenheit the open flame is not only capable of burning a careless operator and causing severe damage to eyes or skin, it can easily scorch or ignite the wood. The other fire hazard is more insidious. Most frame buildings have an air space between the exterior sheathing and siding and interior lath and plaster. This cavity usually has an accumulation of dust which is also easily ignited by the open flame of a blow torch. Finally, leadbase paints will vaporize at high temperatures, releasing toxic fumes that can be unknowingly inhaled. Therefore, because both the heat plate and the heat gun are generally safer to use--that is, the risks are much more controllable--the blow torch should definitely be avoided!

Summary of Thermal Methods

Recommended: Electric heat plate, electric heat gun.

Applicable areas of building: Electric heat plate--flat surfaces such as siding, eaves, sash, sills, doors. Electric heat gun--solid decorative molding, balusters, fretwork, or "gingerbread."

For use on: Class III conditions.

Health/Safety factors: Take precautions against eye damage and fire. Dispose of lead paint residue properly.

Not Recommended: Blow torch.

Chemical Methods

With the availability of effective thermal methods for total paint removal, the need for chemical methods--in the context of preparing historic exterior woodwork for repainting--becomes quite limited. Solvent-base or caustic strippers may, however, play a supplemental role in a number of situations, including:

- Removing paint residue from intricate decorative features, or in cracks or hard to reach areas if a heat gun has not been completely effective;
- Removing paint on window muntins because heat devices can easily break the glass;
- Removing varnish on exterior doors after all layers of paint have been removed by a heat plate/heat gun if the original varnish finish is being restored;
- Removing paint from detachable wooden elements such as exterior shutters, balusters, columns, and doors by dip stripping when other methods are too laborious.

Recommended Chemical Methods

(Use With Extreme Caution)

Because all chemical paint removers can involve potential health and safety hazards, no wholehearted recommendations can be made from that standpoint. Commonly known as "paint removers" or "strippers," both solvent-base or caustic products are commercially available that, when poured, brushed, or sprayed on painted exterior woodwork are capable of softening several layers of paint at a time so that the resulting "sludge"--which should be remembered is nothing less than the sequence of historic paint layers--

can be removed with a putty knife. Detachable wood elements such as exterior shutters can also be "dip-stripped."

Solvent-base Strippers: The formulas tend to vary, but generally consist of combinations of organic solvents such as methylene chloride, isopropanol, toluol, xylol, and methanol; thickeners such as methyl cellulose; and various additives such as paraffin wax used to prevent the volatile solvents from evaporating before they have time to soak through multiple layers of paint. Thus, while some solvent-base strippers are quite thin and therefore unsuitable for use on vertical surfaces, others, called "semi-paste" strippers, are formulated for use on vertical surfaces or the underside of horizontal surfaces.

However, whether liquid or semi-paste, there are two important points to stress when using any solvent-base stripper: First, the vapors from the organic chemicals can be highly toxic if inhaled; skin contact is equally dangerous because the solvents can be absorbed; second, many solvent-base strippers are flammable. Even though application out-of-doors may somewhat mitigate health and safety hazards, a respirator with special filters for organic solvents is recommended and, of course, solvent-base strippers should never be used around open flames, lighted cigarettes, or with steel wool around electrical outlets.

Although appearing to be the simplest for exterior use, a particular type of solvent-base stripper needs to be mentioned here because it can actually cause the most problems. Known as "water-rinsable," such products have a high proportion of methylene chloride together with emulsifiers. Although the dissolved paint can be rinsed off with water with a minimum of scraping, this ultimately creates more of a problem in cleaning up and properly disposing of the sludge. In addition, these strippers can leave a gummy residue on the wood that requires removal with solvents. Finally, water-rinsable strippers tend to raise the grain of the wood more than regular strippers.

On balance, then, the regular strippers would seem to work just as well for exterior purposes and are perhaps even better from the standpoint of proper lead sludge disposal because they must be hand 'scraped as opposed to rinsed off (a coffee-can with a wire stretched across the top is one effective way to collect the sludge; when the putty knife is run across the wire, the sludge simply falls into the can. Then, when the can is filled, the wire is removed, the can capped, and the lead paint sludge disposed of according to local health regulations).

Caustic strippers: Until the advent of solvent-base strippers, caustic strippers were used exclusively when a chemical method was deemed appropriate for total paint removal prior to repainting or refinishing. Now, it is more difficult to find commercially prepared caustic solutions in hardware and paint stores for homeowner use with the exception of lye (caustic soda) because solvent-base strippers packaged in small quantities tend to dominate the market.

Most commercial dip stripping companies, however, continue to use variations of the caustic bath process because it is still the cheapest method available for removing paint. Generally, dip stripping should be left to professional companies because caustic solutions can dissolve skin and permanently damage eyes as well as present serious disposal problems in large quantities.

If exterior shutters or other detachable elements are being sent out for stripping in a caustic solution, it is wise to see samples of the company's finished work. While some companies do a first-rate job, others can leave a residue of paint in carvings and grooves. Wooden elements may also be soaked too long so that the wood grain is raised and roughened, requiring extensive hand sanding later. In addition, assurances should be given by these companies that caustic paint removers will be neutralized with a mild acid solution or at least thoroughly rinsed with water after dipping (a caustic residue makes the wood feel slippery). If this is not done, the lye residue will cause new paint to fail.

Summary of Chemical Methods

Recommended, with extreme caution: Solvent-base strippers, caustic strippers.

Applicable areas of buildings: decorative features, window muntins, doors, exterior shutters, columns, balusters, and railings.

For use on: Class III Conditions.

Health/Safety factors: Take precautions against inhaling toxic vapors; fire; eye damage; and chemical poisoning from skin contact. Dispose of lead residue properly

General Paint Type Recommendations



Decorative features were painted with a traditional oil-based paint as a part of the rehabilitation. Photo: NPS files.

Based on the assumption that the exterior wood has been painted with oil paint many times in the past and the existing top coat is therefore also an oil paint, it is recommended that for CLASS I and CLASS II paint surface conditions, a top coat of high quality oil paint be applied when repainting. The reason for recommending oil rather than latex paints is that a coat of latex paint applied directly over old oil paint is more apt to fail. The considerations are twofold. First, because oil paints continue to harden with age, the old surface is sensitive to the added stress of shrinkage which occurs as a new coat of paint dries. Oil paints shrink less upon drying than latex paints and thus do not have as great a tendency to pull the old paint loose. Second, when exterior oil paints age, the binder releases pigment particles, causing a

chalky surface. Although for best results, the chalk (or dirt, etc.) should always be cleaned off prior to repainting, a coat of new oil paint is more able to penetrate a chalky residue and adhere than is latex paint. Therefore, unless it is possible to thoroughly clean a heavily chalked surface, oil paints--on balance--give better adhesion.

If however, a latex top coat is going to be applied over several layers of old oil paint, an oil primer should be applied first (the oil primer creates a flat, porous surface to which the latex can adhere). After the primer has thoroughly dried, a latex top coat may be applied. In the long run, changing paint types is more time consuming and expensive. An application of a new oil-type top coat on the old oil paint is, thus, the preferred course of action.

If CLASS III conditions have necessitated total paint removal, there are two options, both of which assure protection of the exterior wood: (1) an oil primer may be applied followed by an oil-type top coat, preferably by the same manufacturer; or (2) an oil primer may be applied followed by a latex top coat, again using the same brand of paint. It should also be noted that primers were never intended to withstand the effects of weathering; therefore, the top coat should be applied as soon as possible after the primer has dried.

CONCLUSION

The recommendations outlined in this Brief are cautious because at present there is no completely safe and effective method of removing old paint from exterior woodwork. This has necessarily eliminated descriptions of several methods still in a developmental or experimental stage, which can therefore neither be recommended nor precluded from future recommendation. With the ever-increasing number of buildings being rehabilitated,

however, paint removal technology should be stimulated and, in consequence, existing methods refined and new methods developed which will respect both the historic wood and the health and safety of the operator.

Reading List

Batcheler, Penelope Hartshorne, "Paint Color Research and Restoration." *Technical Leaflet 15*. Nashville: American Association for State and Local History (undated).

"Danger: Restoration May Be Hazardous to Your Health." *The Old House Journal*. Vol. 4, No. 5 (May 1976), pp. 911.

Gola, Edward F. "Avoiding Mistakes in Exterior Painting." *The Old House Journal*. Vol. 4, No. 6 (June 1976), pp. 1, 45.

"How to Assure a Satisfactory Paint Job." *Scientific Section: Circular 784*. Washington, DC: National Paint, Varnish and Lacquer Association (undated).

Labine, Clem. "Selecting the Best Exterior Paint." *The Old House Journal*. Vol. 4, No. 7 (July 1976), pp. 1, 1011.

Morton, W. Brown III and Hume, Gary L. *The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards*. Washington, DC: Department of Interior, 1979.

Paint Problem Solver. St. Louis: National Decorating Products Association, 1980.

"Special Issue: Exterior Painting." *The Old House Journal*. Vol. 4, No. 4 (April 1981), pp. 7194.

Thorsen, John W. "Hazardous Waste: What is it? How to Handle it." *Professional Decorating & Coating Action*. Vol. 43, No. 4 (September 1981), pp. 45.

Acknowledgements

Special thanks go to Baird M. Smith, AIA (formerly Chief, Preservation Technology Branch, TPS) for providing general direction in the development of the manuscript. In addition, the following individuals are to be thanked for their contributions as technical experts in the field: Royal T. Brown, National Paint and Coatings Association, Washington, D.C.; Dr. Judith E. Selwyn, Preservation Technology Associates, Boston, Massachusetts; and Dennis R. Vacca, Pratt & Lambert Co., Carlstadt, New Jersey. Finally, thanks go to several National Park Service staff members whose valuable comments were incorporated into the text and who contributed to the production of the brief: James A. Caufield, Anne E. Grimmer, Jean E. Travers, David G. Battle, Sharon C. Park, AIA, Charles E. Fisher III, Sara K. Blumenthal, and Martha A. Gutrick. The peeling paint photo used as the logo is provided, courtesy, John Leeke, Preservation Consultant, 2001, and is copyrighted.

Washington, D.C. September, 1982

Home page logo: Peeling paint on historic wood siding. Photo: ©John Leeke, 2002.

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

[Order Brief](#) | [Technical Preservation Services](#) | [Preservation Briefs](#) | [Search](#) | [Questions/Answers](#)

14 PRESERVATION BRIEFS

New Exterior Additions to Historic Buildings: Preservation Concerns

Anne E. Grimmer and Kay D. Weeks



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



A new exterior addition to a historic building should be considered in a rehabilitation project only after determining that requirements for the new or adaptive use cannot be successfully met by altering non-significant interior spaces. If the new use cannot be accommodated in this way, then an exterior addition may be an acceptable alternative. Rehabilitation as a treatment “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.”

The topic of new additions, including rooftop additions, to historic buildings comes up frequently, especially as it

relates to rehabilitation projects. It is often discussed and it is the subject of concern, consternation, considerable disagreement and confusion. Can, in certain instances, a historic building be enlarged for a new use without destroying its historic character? And, just what is significant about each particular historic building that should be preserved? Finally, what kind of new construction is appropriate to the historic building?

The vast amount of literature on the subject of additions to historic buildings reflects widespread interest as well as divergence of opinion. New additions have been discussed by historians within a social and political framework; by architects and architectural historians in terms of construction technology and style; and

by urban planners as successful or unsuccessful contextual design. However, within the historic preservation and rehabilitation programs of the National Park Service, the focus on new additions is to ensure that they preserve the character of historic buildings.

Most historic districts or neighborhoods are listed in the National Register of Historic Places for their significance within a particular time frame. This period of significance of historic districts as well as individually-listed properties may sometimes lead to a misunderstanding that inclusion in the National Register may prohibit any physical change outside of a certain historical period—particularly in the form of exterior additions. National Register listing does not mean that a building or district is frozen in time and that no change can be made without compromising the historical significance. It does mean, however, that a new addition to a historic building should preserve its historic character.



Figure 1. The addition to the right with its connecting hyphen is compatible with the Collegiate Gothic-style library. The addition is set back from the front of the library and uses the same materials and a simplified design that references, but does not copy, the historic building. Photo: David Wakely Photography.



Figure 2. The new section on the right is appropriately scaled and reflects the design of the historic Art Deco-style hotel. The apparent separation created by the recessed connector also enables the addition to be viewed as an individual building.

Guidance on New Additions

To meet Standard 1 of the *Secretary of the Interior's Standards for Rehabilitation*, which states that “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,” it must be determined whether a historic building can accommodate a new addition. Before expanding the building’s footprint, consideration should first be given to incorporating changes—such as code upgrades or spatial needs for a new use—within secondary areas of the historic building. However, this is not always possible and, after such an evaluation, the conclusion may be that an addition is required, particularly if it is needed to avoid modifications to character-defining interior spaces. An addition should be designed to be compatible with the historic character of the building and, thus, meet the *Standards for Rehabilitation*. Standards 9 and 10 apply specifically to new additions:

(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 subject of new additions is important because a new addition to a historic building has the potential to change its historic character as well as to damage and destroy significant historic materials and features. A new addition also has the potential to confuse the public and to make it difficult or impossible to differentiate the old from the new or to recognize what part of the historic building is genuinely historic.

The intent of this Preservation Brief is to provide guidance to owners, architects and developers on how to design a compatible new addition, including a rooftop addition, to a historic building. A new addition to a historic building should preserve the building’s *historic character*. To accomplish this and meet the *Secretary of the Interior’s Standards for Rehabilitation*, a new addition should:

- Preserve significant historic materials, features and form;
- Be compatible; and
- Be differentiated from the historic building.

Every historic building is different and each rehabilitation project is unique. Therefore, the guidance offered here is not specific, but general, so that it can be applied to a wide variety of building types and situations. To assist in interpreting this guidance, illustrations of a variety of new additions are provided. Good examples, as well as some that do not meet the Standards, are included to further help explain and clarify what is a compatible new addition that preserves the character of the historic building.



Figure 3. The red and buff-colored parking addition with a rooftop playground is compatible with the early-20th century school as well as the neighborhood in which it also serves as infill in the urban setting.

Preserve Significant Historic Materials, Features and Form

Attaching a new exterior addition usually involves some degree of material loss to an external wall of a historic building, but it should be minimized. Damaging or destroying significant materials and craftsmanship should be avoided, as much as possible.

Generally speaking, preservation of historic buildings inherently implies minimal change to primary or “public” elevations and, of course, interior features as well. Exterior features that distinguish one historic building or a row of buildings and which can be seen from a public right of way, such as a street or sidewalk, are most likely to be the most significant. These can include many different elements, such as: window patterns, window hoods or shutters; porticoes, entrances and doorways; roof shapes, cornices and decorative moldings; or commercial storefronts with their special detailing, signs and glazing patterns. Beyond a single building, entire blocks of urban or residential structures are often closely related architecturally by their materials, detailing, form and alignment. Because significant materials and features should be preserved, not damaged or hidden, the first place to consider placing a new addition is in a location where the least amount of historic material and character-defining features will be lost. In most cases, this will be on a secondary side or rear elevation.

One way to reduce overall material loss when constructing a new addition is simply to keep the addition smaller in proportion to the size of the historic building. Limiting the size and number of openings between old and new by utilizing existing doors or enlarging windows also helps to minimize loss. An often successful way to accomplish this is to link the addition to the historic building by means of a hyphen or connector. A connector provides a physical link while visually separating the old and new, and the connecting passageway penetrates and removes only a small portion of the historic wall. A new addition that will abut the historic building along an entire elevation or wrap around a side and rear elevation, will likely integrate the historic and the new interiors, and thus result in a high degree of loss of form and exterior walls, as well as significant alteration of interior spaces and features, and will not meet the Standards.



Figure 4. This glass and brick structure is a harmonious addition set back and connected to the rear of the Colonial Revival-style brick house. Cunningham/Quill Architects. Photos: © Maxwell MacKenzie.

Compatible but Differentiated Design

In accordance with the Standards, a new addition must preserve the building's historic character and, in order to do that, it must be differentiated, but compatible, with the historic building. A new addition must retain the essential form and integrity of the historic property. Keeping the addition smaller, limiting the removal of historic materials by linking the addition with a hyphen, and locating the new addition at the rear or on an inconspicuous side elevation of a historic building are techniques discussed previously that can help to accomplish this.

Rather than differentiating between old and new, it might seem more in keeping with the historic character

simply to repeat the historic form, material, features and detailing in a new addition. However, when the new work is highly replicative and indistinguishable from the old in appearance, it may no longer be possible to identify the “real” historic building. Conversely, the treatment of the addition should not be so different that it becomes the primary focus. The difference may be subtle, but it must be clear. A new addition to a historic building should protect those visual qualities that make the building eligible for listing in the National Register of Historic Places.

The National Park Service policy concerning new additions to historic buildings, which was adopted in 1967, is not unique. It is an outgrowth and continuation of a general philosophical approach to change first expressed by John Ruskin in England in the 1850s, formalized by William Morris in the founding of the Society for the Protection of Ancient Buildings in 1877, expanded by the Society in 1924 and, finally, reiterated in the 1964 Venice Charter—a document that continues to be followed by the national committees of the International Council on Monuments and Sites (ICOMOS). The 1967 *Administrative Policies for Historical Areas of the National Park System* direct that “...a modern addition should be readily distinguishable from the older work; however, the new work should be harmonious with the old in scale, proportion, materials, and color. Such additions should be as inconspicuous as

possible from the public view.” As a logical evolution from these Policies specifically for National Park Service-owned historic structures, the 1977 *Secretary of the Interior’s Standards for Rehabilitation*, which may be applied to **all** historic buildings listed in, or eligible for listing in the National Register, also state that “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.”

Preserve Historic Character

The goal, of course, is a new addition that preserves the building’s historic character. The historic character of each building may be different, but the methodology of establishing it remains the same. Knowing the uses and functions a building has served over time will assist in making what is essentially a physical evaluation. But, while written and pictorial documentation can provide a framework for establishing the building’s history, to a large extent the historic character is embodied in the physical aspects of the historic building itself—shape, materials, features, craftsmanship, window arrangements, colors, setting and interiors. Thus, it is important to identify the historic character before making decisions about the extent—or limitations—of change that can be made.



Figure 5. This addition (a) is constructed of matching brick and attached by a recessed connector (b) to the 1914 apartment building (c). The design is compatible and the addition is smaller and subordinate to the historic building (d).



Figure 6. A new addition (left) is connected to the garage which separates it from the main block of the c. 1910 former florist shop (right). The addition is traditional in style, yet sufficiently restrained in design to distinguish it from the historic building.

A new addition should always be subordinate to the historic building; it should not compete in size, scale or design with the historic building. An addition that bears no relationship to the proportions and massing of the historic building—in other words, one that overpowers the historic form and changes the scale—will usually compromise the historic character as well. The appropriate size for a new addition varies from building to building; it could never be stated in a square or cubic footage ratio, but the historic building's existing proportions, site and setting can help set some general parameters for enlargement. Although even a small addition that is poorly designed can have an adverse impact, to some extent, there is a predictable relationship between the size of the historic resource and what is an appropriate size for a compatible new addition.

Generally, constructing the new addition on a secondary side or rear elevation—in addition to material preservation—will also preserve the historic character. Not only will the addition be less visible, but because a secondary elevation is usually simpler and less distinctive, the addition will have less of a physical and visual impact on the historic building. Such placement will help to preserve the building's historic form and relationship to its site and setting.

Historic landscape features, including distinctive grade variations, also need to be respected. Any new landscape features, including plants and trees, should be kept at a scale and density that will not interfere with understanding of the historic resource itself. A traditionally landscaped

property should not be covered with large paved areas for parking which would drastically change the character of the site.

Despite the fact that in most cases it is recommended that the new addition be attached to a secondary elevation, sometimes this is not possible. There simply may not be a secondary elevation—some important freestanding buildings have significant materials and features on all sides. A structure or group of structures together with its setting (for example, a college campus) may be of such significance that any new addition would not only damage materials, but alter the buildings' relationship to each other and the setting. An addition attached to a highly-visible elevation of a historic building can radically alter the historic form or obscure features such as a decorative cornice or window ornamentation. Similarly, an addition that fills



Figure 7. A vacant side lot was the only place a new stair tower could be built when this 1903 theater was rehabilitated as a performing arts center. Constructed with matching materials, the stair tower is set back with a recessed connector and, despite its prominent location, it is clearly subordinate and differentiated from the historic theater.



Figure 8. The rehabilitation of this large, early-20th century warehouse (left) into affordable artists' lofts included the addition of a compatible glass and brick elevator/stair tower at the back (right).



Figure 9. A simple, brick stair tower replaced two non-historic additions at the rear of this 1879 school building when it was rehabilitated as a women's and children's shelter. The addition is set back and it is not visible from the front of the school.



Figure 10. The small size and the use of matching materials ensures that the new addition on the left is compatible with the historic Romanesque Revival-style building.

in a planned void on a highly-visible elevation (such as a U-shaped plan or a feature such as a porch) will also alter the historic form and, as a result, change the historic character. Under these circumstances, an addition would have too much of a negative impact on the historic building and it would not meet the Standards. Such situations may best be handled by constructing a separate building in a location where it will not adversely affect the historic structure and its setting.

In other instances, particularly in urban areas, there may be no other place but adjacent to the primary façade to locate an addition needed for the new use. It may be possible to design a lateral addition attached on the side that is compatible with the historic building, even though it is a highly-visible new element. Certain types of historic structures, such as government buildings, metropolitan museums, churches or libraries, may be so massive in size that a relatively large-scale addition may not compromise the historic character, provided, of course, the addition is smaller than the historic building. Occasionally, the visible size of an addition can be reduced by placing some of the spaces or support systems in a part of the structure that is underground. Large new additions may sometimes be successful if they read as a separate volume, rather than as an extension of the historic structure, although the scale, massing and proportions of the addition still need to be compatible with the historic building. However, similar expansion of smaller buildings would be dramatically out of scale. In summary, where any new addition is proposed, correctly assessing the relationship between actual size and relative scale will be a key to preserving the character of the historic building.



Figure 11. The addition to this early-20th century Gothic Revival-style church provides space for offices, a great hall for gatherings and an accessible entrance (left). The stucco finish, metal roof, narrow gables and the Gothic-arched entrance complement the architecture of the historic church. Placing the addition in back where the ground slopes away ensures that it is subordinate and minimizes its impact on the church (below).

Design Guidance for Compatible New Additions to Historic Buildings

There is no formula or prescription for designing a new addition that meets the Standards. A new addition to a historic building that meets the Standards can be any architectural style—traditional, contemporary or a simplified version of the historic building. However, there must be a balance between differentiation and compatibility in order to maintain the historic character and the identity of the building being enlarged. New additions that too closely resemble the historic building or are in extreme contrast to it fall short of this balance. *Inherent in all of the guidance is the concept that an addition needs to be subordinate to the historic building.*

A new addition **must preserve significant historic materials, features and form, and it must be compatible but differentiated from the historic building.** To achieve this, it is necessary to carefully consider the **placement or location** of the new addition, and its **size, scale and massing** when planning a new addition. To preserve a property's historic character, a new addition must be visually distinguishable from the historic building. This does not mean that the addition and the historic building should be glaringly different in terms of design, materials and other visual qualities. Instead, the new addition should take its design cues from, but not copy, the historic building.



A variety of design techniques can be effective ways to differentiate the new construction from the old, while respecting the architectural qualities and vocabulary of the historic building, including the following:

- Incorporate a simple, recessed, small-scale hyphen to physically separate the old and the new volumes or set the addition back from the wall plane(s) of the historic building.
- Avoid designs that unify the two volumes into a single architectural whole. The new addition may include simplified architectural features that reflect, but do not duplicate, similar features on the historic building. This approach will not impair the existing building's historic character as long as the new structure is subordinate in size and clearly differentiated and distinguishable so that the identity of the historic structure is not lost in a new and larger composition. The historic building must be clearly identifiable and its physical integrity must not be compromised by the new addition.



Figure 12. This 1954 synagogue (left) is accessed through a monumental entrance to the right. The new education wing (far right) added to it features the same vertical elements and color and, even though it is quite large, its smaller scale and height ensure that it is secondary to the historic resource.



Figure 13. A glass and metal structure was constructed in the courtyard as a restaurant when this 1839 building was converted to a hotel. Although such an addition might not be appropriate in a more public location, it is compatible here in the courtyard of this historic building.

- Use building materials in the same color range or value as those of the historic building. The materials need not be the same as those on the historic building, but they should be harmonious; they should not be so different that they stand out or distract from the historic building. (Even clear glass can be as prominent as a less transparent material. Generally, glass may be most appropriate for small-scale additions, such as an entrance on a secondary elevation or a connector between an addition and the historic building.)
- Base the size, rhythm and alignment of the new addition's window and door openings on those of the historic building.
- Respect the architectural expression of the historic building type. For example, an addition to an institutional building should maintain the architectural character associated with this building type rather than using details and elements typical of residential or other building types.



Figure 14. This glass addition was erected at the back of an 1895 former brewery during rehabilitation to provide another entrance. The addition is compatible with the plain character of this secondary elevation.

These techniques are merely examples of ways to differentiate a new addition from the historic building while ensuring that the addition is compatible with it. Other ways of differentiating a new addition from the historic building may be used as long as they maintain the primacy of the historic building. Working within these basic principles still allows for a broad range of architectural expression that can range from stylistic similarity to contemporary distinction. The recommended design approach for an addition is one that neither copies the historic building exactly nor stands in stark contrast to it.

Revising an Incompatible Design for a New Addition to Meet the Standards

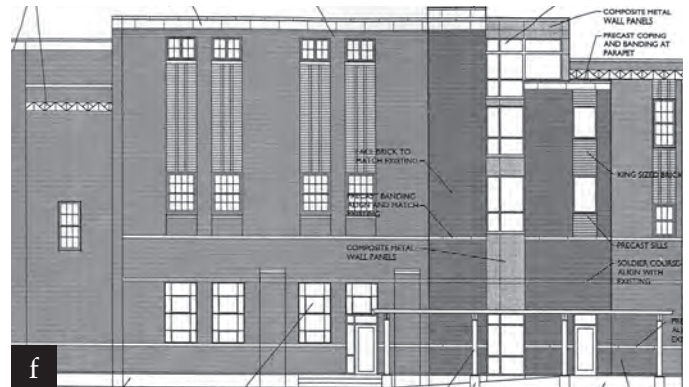
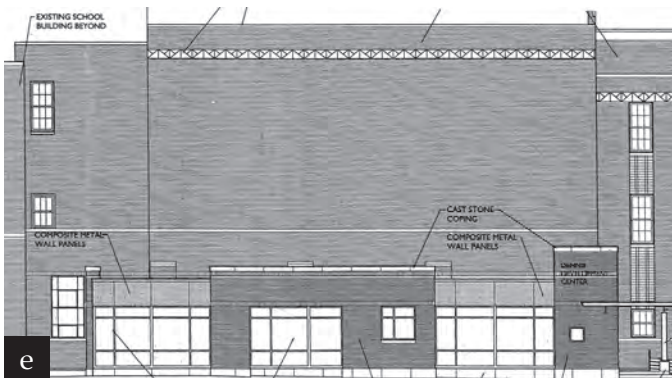
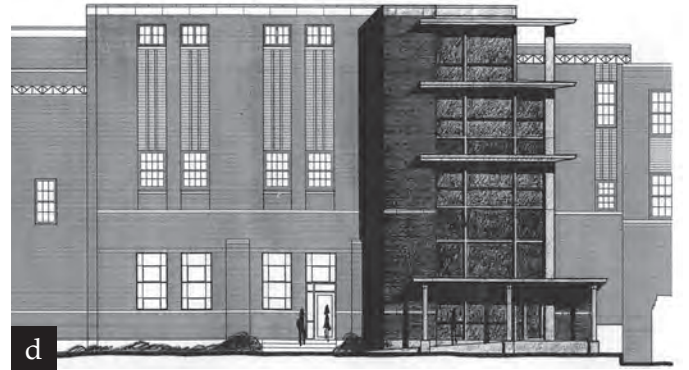
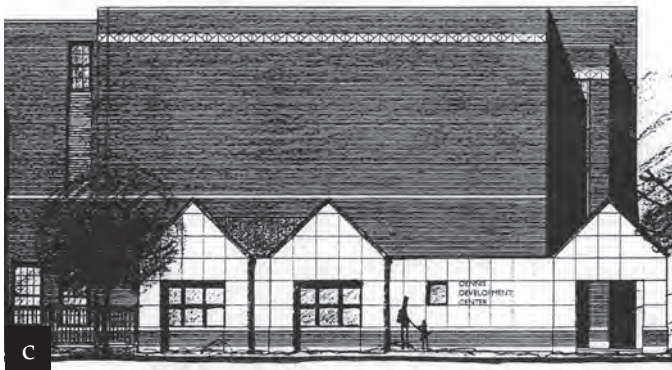


Figure 15. The rehabilitation of a c. 1930 high school auditorium for a clinic and offices proposed two additions: a one-story entrance and reception area on this elevation (a); and a four-story elevator and stair tower on another side (b). The gabled entrance (c) first proposed was not compatible with the flat-roofed auditorium and the design of the proposed stair tower (d) was also incompatible and overwhelmed the historic building. The designs were revised (e-f) resulting in new additions that meet the Standards (g-h).

Incompatible New Additions to Historic Buildings

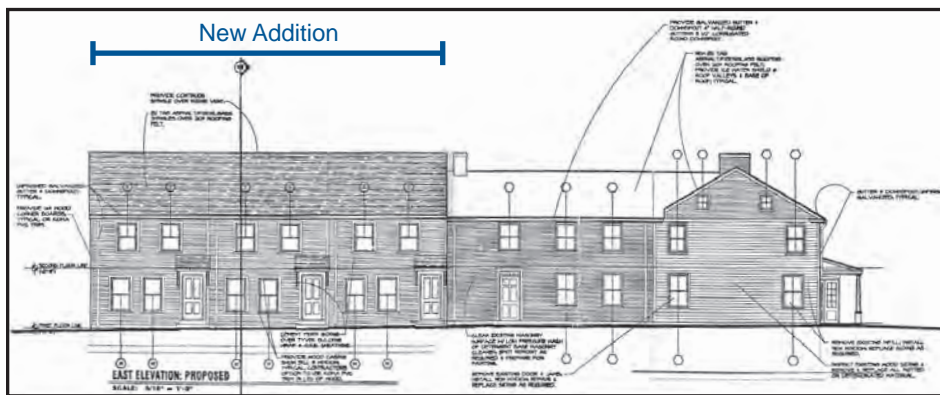


Figure 16. The proposal to add three row houses to the rear ell of this early-19th century residential property doubles its size and does not meet the Standards..



Figure 17. The small addition on the left is starkly different and it is not compatible with the eclectic, late-19th century house.



Figure 18. The expansion of a one- and one-half story historic bungalow (left) with a large two-story rear addition (right) has greatly altered and obscured its distinctive shape and form.



Figure 19. The upper two floors of this early-20th century office building were part of the original design, but were not built. During rehabilitation, the two stories were finally constructed. This treatment does not meet the Standards because the addition has given the building an appearance it never had historically.



Figure 20. The height, as well as the design, of these two-story rooftop additions overwhelms the two-story and the one-story, low-rise historic buildings.



New Additions in Densely-Built Environments

In built-up urban areas, locating a new addition on a less visible side or rear elevation may not be possible simply because there is no available space. In this instance, there may be alternative ways to help preserve the historic character. One approach when connecting a new addition to a historic building on a primary elevation is to use a hyphen to separate them. A subtle variation in material, detailing and color may also provide the degree of differentiation necessary to avoid changing the essential proportions and character of the historic building.

A densely-built neighborhood such as a downtown commercial core offers a particular opportunity to design an addition that will have a minimal impact on the historic building. Often the site for such an addition is a vacant lot where another building formerly stood. Treating the addition as a separate or infill building may be the best approach when designing an addition that will have the least impact on the historic building and the district. In these instances there may be no need for a direct visual link to the historic building. Height and setback from the street should generally be consistent with those of the historic building and other surrounding buildings in the district. Thus, in most urban commercial areas the addition should not be set back from the façade of the historic building. A tight urban setting may sometimes even accommodate a larger addition if the primary elevation is designed to give the appearance of being several buildings by breaking up the facade into elements that are consistent with the scale of the historic building and adjacent buildings.



Figure 21. Both wings of this historic L-shaped building (top), which fronts on two city streets, adjoined vacant lots. A two-story addition was constructed on one lot (above, left) and a six-story addition was built on the other (above, right). Like the historic building, which has two different facades, the compatible new additions are also different and appear to be separate structures rather than part of the historic building.



Figure 22. The proposed new addition is compatible with the historic buildings that remain on the block. Its design with multiple storefronts helps break up the mass.



Figure 23. Colored flags marking the location of a proposed penthouse addition (a) were placed on the roof to help evaluate the impact and visibility of an addition planned for this historic furniture store (b). Based on this evaluation, the addition was constructed as proposed. It is minimally visible and compatible with the 1912 structure (c). The tall parapet wall conceals the addition from the street below (d).

Rooftop Additions

The guidance provided on designing a compatible new addition to a historic building applies equally to new rooftop additions. A rooftop addition should preserve the character of a historic building by preserving historic materials, features and form; and it should be compatible but differentiated from the historic building.

However, there are several other design principles that apply specifically to rooftop additions. Generally, a rooftop addition should not be more than one story in height to minimize its visibility and its impact on the proportion and profile of the historic building. A rooftop addition should almost always be set back at least one full bay from the primary elevation of the building, as well as from the other elevations if the building is free-standing or highly visible.

It is difficult, if not impossible, to minimize the impact of adding an entire new floor to relatively low buildings, such as small-scale residential or commercial structures, even if the new addition is set back from the plane of the façade. Constructing another floor on top of a small, one, two or three-story building is seldom appropriate for buildings of this size as it would measurably alter the building's proportions and profile, and negatively impact its historic character. On the other hand, a rooftop addition on an eight-story building, for example, in a historic district consisting primarily of tall buildings might not affect the historic character because the new construction may blend in with the surrounding buildings and be only minimally visible within the district. A rooftop addition in a densely-built urban area is more likely to be compatible on a building that is adjacent to similarly-sized or taller buildings.

A number of methods may be used to help evaluate the effect of a proposed rooftop addition on a historic building and district, including pedestrian sight lines, three-dimensional schematics and computer-generated design. However, drawings generally do not provide a true "picture" of the appearance and visibility of a proposed rooftop addition. For this reason, it is often necessary to construct a rough, temporary, full-size or skeletal mock up of a portion of the proposed addition, which can then be photographed and evaluated from critical vantage points on surrounding streets.

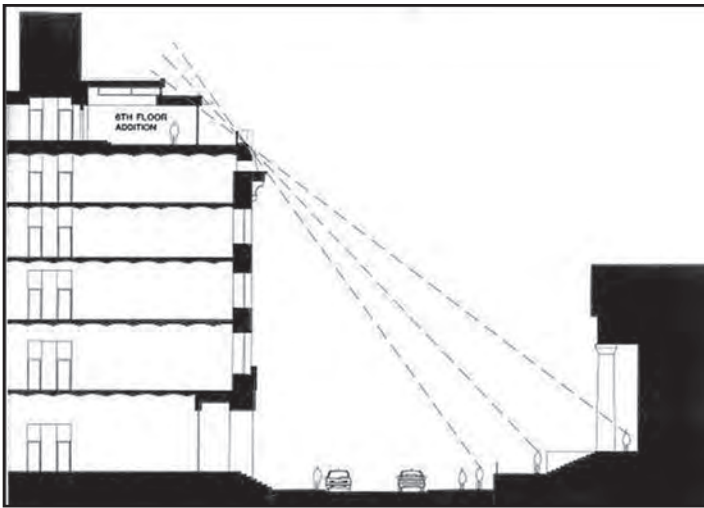


Figure 24. How to Evaluate a Proposed Rooftop Addition.
A sight-line study (above) only factors in views from directly across the street, which can be very restrictive and does not illustrate the full effect of an addition from other public rights of way. A mock up (above, right) or a mock up enhanced by a computer-generated rendering (below, right) is essential to evaluate the impact of a proposed rooftop addition on the historic building.

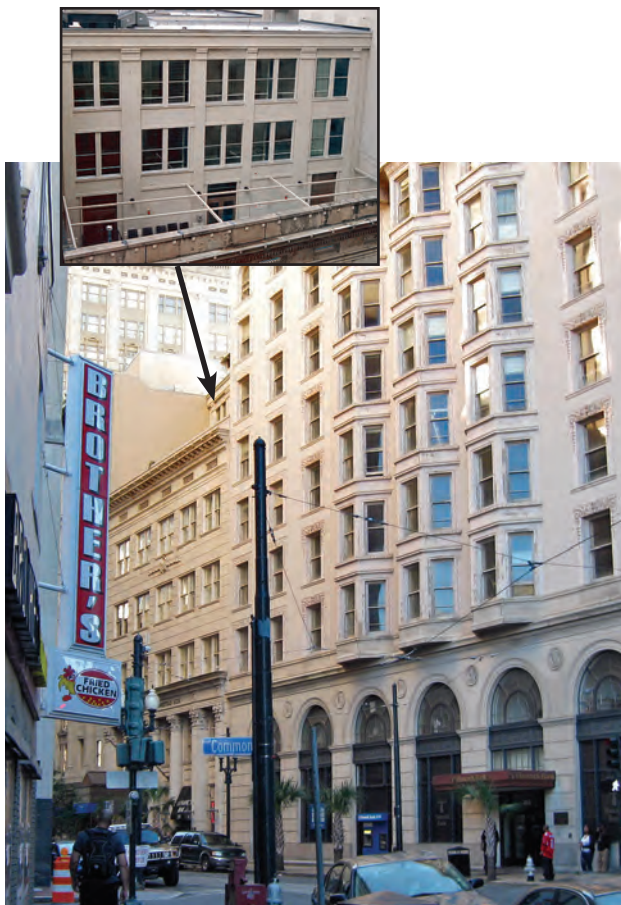


Figure 25. It was possible to add a compatible, three-story, penthouse addition to the roof of this five-story, historic bank building because the addition is set far back, it is surrounded by taller buildings and a deep parapet conceals almost all of the addition from below.

Figure 26. A rooftop addition would have negatively impacted the character of the primary facade (right) of this mid-19th century, four-story structure and the low-rise historic district. However, a third floor was successfully added on the two-story rear portion (below) of the same building with little impact to the building or the district because it blends in with the height of the adjacent building.





Figure 27. Although the new brick stair/elevator tower (left) is not visible from the front (right), it is on a prominent side elevation of this 1890 stone bank. The compatible addition is set back and does not compete with the historic building. Photos: Chadd Gossmann, Aurora Photography, LLC.

Designing a New Exterior Addition to a Historic Building

This guidance should be applied to help in designing a compatible new addition that will meet the *Secretary of the Interior's Standards for Rehabilitation*:

- A new addition should be simple and unobtrusive in design, and should be distinguished from the historic building—a recessed connector can help to differentiate the new from the old.
- A new addition should not be highly visible from the public right of way; a rear or other secondary elevation is usually the best location for a new addition.
- The construction materials and the color of the new addition should be harmonious with the historic building materials.
- The new addition should be smaller than the historic building—it should be subordinate in both size and design to the historic building.

The same guidance should be applied when designing a compatible **rooftop** addition, plus the following:

- A rooftop addition is generally not appropriate for a one, two or three-story building—and often is not appropriate for taller buildings.
- A rooftop addition should be minimally visible.
- Generally, a rooftop addition must be set back at least one full bay from the primary elevation of the building, as well as from the other elevations if the building is freestanding or highly visible.
- Generally, a rooftop addition should not be more than one story in height.
- Generally, a rooftop addition is more likely to be compatible on a building that is adjacent to similarly-sized or taller buildings.



Figure 28. A small addition (left) was constructed when this 1880s train station was converted for office use. The paired doors with transoms and arched windows on the compatible addition reflect, but do not replicate, the historic building (right).



Figure 29. This simple glass and brick entrance (left) added to a secondary elevation of a 1920s school building (right) is compatible with the original structure.

Summary

Because a new exterior addition to a historic building can damage or destroy significant materials and can change the building's character, an addition should be considered only after it has been determined that the new use cannot be met by altering non-significant, or secondary, interior spaces. If the new use cannot be met in this way, then an attached addition may be an acceptable alternative if carefully planned and designed. A new addition to a historic building should be constructed in a manner that preserves significant materials, features and form, and preserves the building's historic character. Finally, an addition should be differentiated from the historic building so that the new work is compatible with—and does not detract from—the historic building, and cannot itself be confused as historic.

Additional Reading

Byard, Paul Spencer. *The Architecture of New Additions: Design and Regulation*. New York, NY: W.W. Norton & Company, 1998.

Day, Steven, AIA. "Modernism Meets History: New Additions to Historic Structures." *Preservation Seattle* [Historic Seattle's online monthly preservation magazine.] May 2003. www.historicseattle.org/preservationseattle/publicpolicy/defaultmay2.htm.

Incentives! A Guide to the Federal Historic Preservation Tax Incentives Program for Income-Producing Properties. "Avoiding Incompatible Treatments: New Additions & Rooftop Additions." Technical Preservation Services Branch, National Park Service. Online at www.nps.gov/history/hps/tps/.

Interpreting the Standards Bulletins (ITS). Technical Preservation Services Branch, National Park Service. Online at www.nps.gov/history/hps/tps/.

New Additions to Historic Buildings. Technical Preservation Services Branch, National Park Service. Online at www.nps.gov/history/hps/tps/.

O'Connell, Kim A. "Making Connections." *Traditional Building*. March/April 2004. (Vol. 17, No. 2), pp. 12-15.

The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Washington, D.C.: U.S. Department of the Interior, National Park Service, Preservation Assistance Division, rev. 1990.

The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings. (Authors: W. Brown Morton, III, Gary L. Hume, Kay D. Weeks, and H. Ward Jandl. Project Directors: Anne E. Grimmer and Kay D. Weeks.) Washington, D.C.: U.S. Department of

the Interior, National Park Service, Preservation Assistance Division, 1992. Online at www.nps.gov/history/hps/tps/.

Semes, Steven W. "Differentiated and Compatible: The Secretary's Standards revisited." *Traditional Building*. February 2009. (Vol. 22, No. 1), pp. 20-23.

Semes, Steven W. *The Future of the Past: A Conservation Ethic for Architecture, Urbanism, and Historic Preservation*. (In association with The Institute of Classical Architecture and Classical America.) New York, NY: W.W. Norton & Company, 2009.



Figure 30. The small addition on the right of this late-19th century commercial structure is clearly secondary and compatible in size, materials and design with the historic building.



Figure 31. An elevator/stair tower was added at the back of this Richardsonian Romanesque-style theater when it was rehabilitated. Rough-cut stone and simple cut-out openings ensure that the addition is compatible and subordinate to the historic building. Photo: Chuck Liddy, AIA.

Acknowledgements

Anne E. Grimmer, Senior Architectural Historian, Technical Preservation Services Branch, National Park Service, revised *Preservation Brief 14*, written by Kay D. Weeks and first published in 1986. The revised Brief features all new illustrations and contains expanded and updated design guidance on the subject of new additions that has been developed by the Technical Preservation Services Branch since the original publication of the Brief. Several individuals generously contributed their time and expertise to review the revision of this *Preservation Brief*, including: Sharon C. Park, FAIA, Chief, Architectural History and Historic Preservation, Smithsonian Institution; Elizabeth Tune and Karen Brandt, Department of Historic Resources, Commonwealth of Virginia; and Phillip Wisley and David Ferro, Division of Historical Resources, Florida Department of State. The Technical Preservation Services professional staff, in particular Michael J. Auer, Jo Ellen Hensley, Gary Sachau and Rebecca Shiffer, also provided important guidance in the development of this publication. All illustrations are from National Park Service files unless otherwise credited. Front cover image: Detail of new addition shown in Figure 4. Photo: © Maxwell MacKenzie.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. The Technical Preservation Services Branch, National Park Service, prepares standards, guidelines and other educational materials on responsible historic preservation treatments for a broad public audience. Additional information about the programs of Technical Preservation Services is available on the website at www.nps.gov/history/hps/tps. Comments about this publication should be addressed to: Charles E. Fisher, Technical Preservation Publications Program Manager, Technical Preservation Services-2255, National Park Service, 1849 C Street, NW, Washington, DC 20240. This publication is not copyrighted and can be reproduced without penalty. Normal procedures for credit to the author and the National Park Service are appreciated.



Figure 31. An elevator/stair tower was added at the back of this Richardsonian Romanesque-style theater when it was rehabilitated. Rough-cut stone and simple cut-out openings ensure that the addition is compatible and subordinate to the historic building. Photo: Chuck Liddy, AIA.

Acknowledgements

Anne E. Grimmer, Senior Architectural Historian, Technical Preservation Services Branch, National Park Service, revised *Preservation Brief 14*, written by Kay D. Weeks and first published in 1986. The revised Brief features all new illustrations and contains expanded and updated design guidance on the subject of new additions that has been developed by the Technical Preservation Services Branch since the original publication of the Brief. Several individuals generously contributed their time and expertise to review the revision of this *Preservation Brief*, including: Sharon C. Park, FAIA, Chief, Architectural History and Historic Preservation, Smithsonian Institution; Elizabeth Tune and Karen Brandt, Department of Historic Resources, Commonwealth of Virginia; and Phillip Wisley and David Ferro, Division of Historical Resources, Florida Department of State. The Technical Preservation Services professional staff, in particular Michael J. Auer, Jo Ellen Hensley, Gary Sachau and Rebecca Shiffer, also provided important guidance in the development of this publication. All illustrations are from National Park Service files unless otherwise credited. Front cover image: Detail of new addition shown in Figure 4. Photo: © Maxwell MacKenzie.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. The Technical Preservation Services Branch, National Park Service, prepares standards, guidelines and other educational materials on responsible historic preservation treatments for a broad public audience. Additional information about the programs of Technical Preservation Services is available on the website at www.nps.gov/history/hps/tps. Comments about this publication should be addressed to: Charles E. Fisher, Technical Preservation Publications Program Manager, Technical Preservation Services-2255, National Park Service, 1849 C Street, NW, Washington, DC 20240. This publication is not copyrighted and can be reproduced without penalty. Normal procedures for credit to the author and the National Park Service are appreciated.

ISBN 978-0-16-085869-7



9 780160 858697

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2104 Mail: Stop IDCC, Washington, DC 20402-0001

ISBN 978-0-16-085869-7

August 2010

18 Preservation Briefs

Technical Preservation Services

National Park Service
U.S. Department of the Interior

Rehabilitating Interiors in Historic Buildings Identifying and Preserving Character-Defining Elements

H. Ward Jandl

- » [Identifying and Evaluating...](#)
- » [Recommended Approaches...](#)
- » [Meeting Building, Life Safety and Fire Codes](#)
- » [Sources of Assistance](#)
- » [Protecting Interior Elements...](#)
- » [Summary](#)
- » [Selected Reading List](#)



A NOTE TO OUR USERS: The web versions of the **Preservation Briefs** differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

A floor plan, the arrangement of spaces, and features and applied finishes may be individually or collectively important in defining the historic character of the building and the purpose for which it was constructed. Thus, their identification, retention, protection, and repair should be given prime consideration in every preservation project. Caution should be exercised in developing plans that would radically change character-defining spaces or that would obscure, damage or destroy interior features or finishes.



The interiors of mills and industrial buildings are frequently open, unadorned spaces with exposed structural elements. While these spaces can serve many new uses, the floor to ceiling height and exposed truss system are character-defining features that should be retained in rehabilitation. Photo: NPS files.

While the exterior of a building may be its most prominent visible aspect, or its "public face," its interior can be even more important in conveying the building's history and development over time. Rehabilitation within the context of the Secretary of the Interior's Standards for Rehabilitation calls for the preservation of exterior and interior portions or features of the building that are significant to its historic, architectural and cultural values.

Interior components worthy of preservation may include the building's plan (sequence of spaces and circulation patterns), the building's spaces (rooms and volumes), individual architectural features, and the various finishes and materials that make up the walls, floors, and ceilings. A theater auditorium or sequences of rooms such as double parlors or a lobby leading to a stairway that ascends to a mezzanine may comprise a building's most important

spaces. Individual rooms may contain notable features such as plaster cornices, millwork, parquet wood floors, and hardware. Paints, wall coverings, and finishing techniques such as graining, may provide color, texture, and patterns which add to a building's unique character.



Virtually all rehabilitations of historic buildings involve some degree of interior alteration, even if the buildings are to be used for their original purpose. Interior rehabilitation proposals may range from preservation of existing features and spaces to total reconfigurations. In some cases, depending on the building, restoration may be warranted to preserve historic character adequately; in other cases, extensive alterations may be perfectly acceptable.

This Preservation Brief has been developed to assist building owners and architects in identifying and evaluating those elements of a building's interior that contribute to its historic character and in planning for the preservation of those elements in the process of rehabilitation. The guidance applies to all building types and styles, from 18th century churches to 20th century office buildings. The Brief does not attempt to provide specific advice on preservation techniques and treatments, given the vast range of buildings, but rather suggests general preservation approaches to guide construction work.



Not only are the features of this early 20th century interior worthy of preservation, the planned sequence of spaces impart a grandeur that is characteristic of high style residences of the period. Photo: Jack E. Boucher, HABS collection.

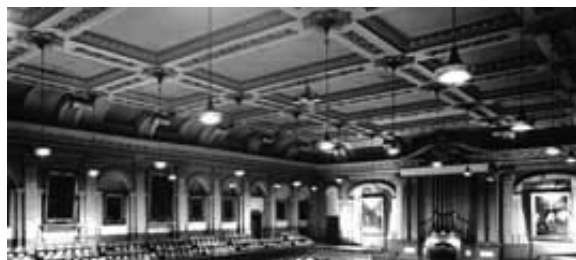
Identifying and Evaluating the Importance of Interior Elements Prior to Rehabilitation

Before determining what uses might be appropriate and before drawing up plans, a thorough professional assessment should be undertaken to identify those tangible architectural components that, prior to rehabilitation, convey the building's sense of time and place--that is, its "historic character." Such an assessment, accomplished by walking through and taking account of each element that makes up the interior, can help ensure that a truly compatible use for the building, one that requires minimal alteration to the building, is selected.

Researching The Building's History

A review of the building's history will reveal why and when the building achieved significance or how it contributes to the significance of the district. This information helps to evaluate whether a particular rehabilitation treatment will be appropriate to the building and whether it will preserve those tangible components of the building that convey its significance for association with specific events or persons along with its architectural importance. In this regard, National Register files may prove useful in explaining why and for what period of time the building is significant. In some cases research may show that later alterations are significant to the building; in other cases, the alterations may be without historical or architectural merit, and may be removed in the rehabilitation.

Identifying Interior Elements



Interiors of buildings can be seen as a series of primary and secondary spaces. The goal of the assessment is to identify which elements contribute to the building's character and which do not. Sometimes it will be the sequence and flow of spaces, and not just the individual rooms themselves, that contribute to the building's character. This is particularly



Many institutional buildings possess distinctive spaces or floor plans that are important in conveying the significance of the property. This grand hall, which occupies the entire floor of the building, could not be subdivided without destroying the integrity of the space. Photo: NPS files.

evident in buildings that have strong central axes or those that are consciously asymmetrical in design. In other cases, it may be the size or shape of the space that is distinctive.

The importance of some interiors may not be readily apparent based on a visual inspection; sometimes rooms that do not appear to be architecturally distinguished are associated with important persons and events that

occurred within the building.

Primary spaces, are found in all buildings, both monumental and modest. Examples may include foyers, corridors, elevator lobbies, assembly rooms, stairhalls, and parlors. Often they are the places in the building that the public uses and sees; sometimes they are the most architecturally detailed spaces in the building, carefully proportioned and finished with costly materials. They may be functionally and architecturally related to the building's external appearance. In a simpler building, a primary space may be distinguishable only by its location, size, proportions, or use. Primary spaces are always important to the character of the building and should be preserved.

Secondary spaces are generally more utilitarian in appearance and size than primary spaces. They may include areas and rooms that service the building, such as bathrooms, and kitchens. Examples of secondary spaces in a commercial or office structure may include storerooms, service corridors, and in some cases, the offices themselves. Secondary spaces tend to be of less importance to the building and may accept greater change in the course of work without compromising the building's historic character.



The interior of this 19th worker's house has not been properly maintained, but it may be as important historically as a richly ornamented interior. Its wide baseboards, flat window trim, and four-panel door should be carefully preserved in a rehabilitation project. Photo: NPS files.

Spaces are often designed to interrelate both visually and functionally. The sequence of spaces, such as vestibule-hall-parlor or foyer-lobby-stair-auditorium or stairhall-corridor-classroom, can define and express the building's historic function and unique character. Important sequences of spaces should be identified and retained in the rehabilitation project.

Floor plans may also be distinctive and characteristic of a style of architecture or a region. Examples include Greek Revival and shotgun houses. Floor plans may also reflect social, educational, and medical theories of the period. Many 19th century psychiatric institutions, for example, had plans based on the ideas of Thomas Kirkbride, a Philadelphia doctor who authored a book on asylum design.

In addition to evaluating the relative importance of the various spaces, the assessment should identify architectural features and finishes that are part of the interior's history and character. Marble or wood wainscoting in corridors, elevator cabs, crown molding, baseboards, mantels, ceiling medallions, window and door trim, tile and parquet floors, and staircases are among those features that can be found in historic buildings. Architectural finishes of note may include grained woodwork, marbleized columns, and plastered walls. Those features that are characteristic of the building's style and period of construction should, again, be retained in the rehabilitation.

Features and finishes, even if machine-made and not exhibiting particularly fine craftsmanship, may be character defining; these would include pressed metal ceilings and millwork around windows and doors. The interior of a plain, simple detailed worker's

house of the 19th century may be as important historically as a richly ornamented, high-style townhouse of the same period. Both resources, if equally intact, convey important information about the early inhabitants and deserve the same careful attention to detail in the preservation process.

The location and condition of the building's existing heating, plumbing, and electrical systems also need to be noted in the assessment. The visible features of historic systems--radiators, grilles, light fixtures, switchplates, bathtubs, etc.--can contribute to the overall character of the building, even if the systems themselves need upgrading.

Assessing Alterations and Deterioration

In assessing a building's interior, it is important to ascertain the extent of alteration and deterioration that may have taken place over the years; these factors help determine what degree of change is appropriate in the project. Close examination of existing fabric and original floorplans, where available, can reveal which alterations have been additive, such as new partitions inserted for functional or structural reasons and historic features covered up rather than destroyed. It can also reveal which have been subtractive, such as key walls removed and architectural features destroyed. If an interior has been modified by additive changes and if these changes have not acquired significance, it may be relatively easy to remove the alterations and return the interior to its historic appearance. If an interior has been greatly altered through subtractive changes, there may be more latitude in making further alterations in the process of rehabilitation because the integrity of the interior has been compromised. At the same time, if the interior had been exceptionally significant, and solid documentation on its historic condition is available, reconstruction of the missing features may be the preferred option.



This corridor has glazed walls, oak trim, and marble wainscotting, typical of those found in the late 19th and early 20th century office buildings. Corridors such as this, displaying simple detailing, should be a priority in rehabilitation projects involving commercial buildings. Photo: NPS files.

It is always a recommended practice to photograph interior spaces and features thoroughly prior to rehabilitation. Measured floor plans showing the existing conditions are extremely useful. This documentation is invaluable in drawing up rehabilitation plans and specifications and in assessing the impact of changes to the property for historic preservation certification purposes.

Drawing Up Plans and Executing Work

If the historic building is to be rehabilitated, it is critical that the new use not require substantial alteration of distinctive spaces or removal of character-defining architectural features or finishes. If an interior loses the physical vestiges of its past as well as its historic function, the sense of time and place associated both with the building and the district in which it is located is lost.

The recommended approaches that follow address common problems associated with the rehabilitation of historic interiors and have been adapted from the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Adherence to these

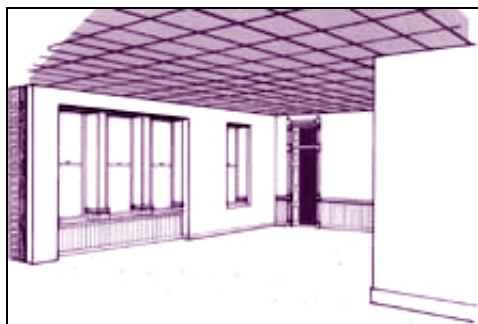
suggestions can help ensure that character-defining interior elements are preserved in the process of rehabilitation. The checklist covers a range of situations and is not intended to be all-inclusive. Readers are strongly encouraged to review the full set of guidelines before undertaking any rehabilitation project.

Recommended Approaches for Rehabilitating Historic Interiors

1. Retain and preserve floor plans and interior spaces that are important in defining the overall historic character of the building. This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial use spaces. Put service functions required by the building's new use, such as bathrooms, mechanical equipment, and office machines, in secondary spaces.

2. Avoid subdividing spaces that are characteristic of a building type or style or that are directly associated with specific persons or patterns of events. Space may be subdivided both vertically through the insertion of new partitions or horizontally through insertion of new floors or mezzanines. The insertion of new additional floors should be considered only when they will not damage or destroy the structural system or obscure, damage, or destroy character-defining spaces, features, or finishes. If rooms have already been subdivided through an earlier insensitive renovation, consider removing the partitions and restoring the room to its original proportions and size.

3. Avoid making new cuts in floors and ceilings where such cuts would change character-defining spaces and the historic configuration of such spaces. Inserting of a new atrium or a lightwell is appropriate only in very limited situations where the existing interiors are not historically or architecturally distinguished.



Furring out exterior walls to add insulation and suspending new ceilings to hide ductwork can change a room's proportions and cause interior features to appear fragmented. The interior character of this school classroom that was converted to apartment use has been destroyed. Drawing: Neal A. Vogel

4. Avoid installing dropped ceilings below ornamental ceilings or in rooms where high ceilings are part of the building's character. In addition to obscuring or destroying significant details, such treatments will also change the space's proportions. If dropped ceilings are installed in buildings that lack character-defining spaces, such as mills and factories, they should be well set back from the windows so they are not visible from the exterior.

5. Retain and preserve interior features and finishes that are important in defining the overall historic character of the building. This might include columns, doors, cornices, baseboards, fireplaces and mantels, paneling, light fixtures, elevator cabs, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stenciling, marbleizing, and graining; and other decorative

materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.

6. Retain stairs in their historic configuration and to location. If a second means of egress is required, consider constructing new stairs in secondary spaces. The application of fire-retardant coatings, such as intumescent paints; the installation of fire suppression systems, such as sprinklers; and the construction of glass enclosures can in many cases permit retention of stairs and other character-defining features.

7. Retain and preserve visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights. If new heating, air conditioning, lighting and plumbing systems are installed, they should be done in a way that does not destroy character-defining spaces, features and finishes. Ducts, pipes, and wiring should be installed as inconspicuously as possible: in secondary spaces, in the attic or basement if possible, or in closets.

8. Avoid "furring out" perimeter walls for insulation purposes. This requires unnecessary removal of window trim and can change a room's proportions. Consider

alternative means of improving thermal performance, such as installing insulation in attics and basements and adding storm windows.

9. Avoid removing paint and plaster from traditionally finished surfaces, to expose masonry and wood. Conversely, avoid painting previously unpainted millwork. Repairing deteriorated plasterwork is encouraged. If the plaster is too deteriorated to save, and the walls and ceilings are not highly ornamented, gypsum board may be an acceptable replacement material. The use of paint colors appropriate to the period of the building's construction is encouraged.



Plaster has been removed from perimeter walls, leaving brick exposed. The plaster should have been retained and repaired, as necessary. Photo: NPS files.

10. Avoid using destructive methods--propane and butane torches or sandblasting--to remove paint or other coatings from historic features. Avoid harsh cleaning agents that can change the appearance of wood.

Meeting Building, Life Safety and Fire Codes

Buildings undergoing rehabilitation must comply with existing building, life safety and fire codes. The application of codes to specific projects varies from building to building, and town to town. Code requirements may make some reuse proposals impractical; in other cases, only minor changes may be needed to bring the project into compliance. In some situations, it may be possible to obtain a code variance to preserve distinctive interior features. (It should be noted that the Secretary's Standards for Rehabilitation take precedence over other regulations and codes in determining whether a rehabilitation project qualifies for Federal tax benefits.) A thorough understanding of the applicable regulations and close coordination with code officials, building inspectors, and fire marshals can prevent the alteration of significant historic interiors.

Sources of Assistance

Rehabilitation and restoration work should be undertaken by professionals who have an established reputation in the field.

Given the wide range of interior work items, from ornamental plaster repair to marble cleaning and the application of graining, it is possible that a number of specialists and subcontractors will need to be brought in to bring the project to completion. State Historic Preservation Officers and local preservation organizations may be a useful source of information in this regard. Good sources of information on appropriate preservation techniques for specific interior features and finishes include the Bulletin of the Association for Preservation Technology and The Old-House Journal; other useful publications are listed in the bibliography.

Protecting Interior Elements During Rehabilitation

Architectural features and finishes to be preserved in the process of rehabilitation should be clearly marked on plans and at the site. This step, along with careful supervision of the interior demolition work and protection against arson and vandalism, can prevent the unintended destruction of architectural elements that contribute to the building's historic character.

Protective coverings should be installed around architectural features and finishes to avoid damage in the course of construction work and to protect workers. Staircases and floors, in particular, are subjected to dirt and heavy wear, and the risk exists of incurring

costly or irreparable damage. In most cases, the best, and least costly, preservation approach is to design and construct a protective system that enables stairs and floors to be used yet protects them from damage. Other architectural features such as mantels, doors, wainscoting, and decorative finishes may be protected by using heavy canvas or plastic sheets.

Summary



After rehabilitation, this severely deteriorated space was returned to its original elegance. Plaster was repaired and repainted; scagliola columns were restored to match marble; and missing decorative metalwork was re-installed in front of the windows. Photo: Carol M. Highsmith.

In many cases, the interior of a historic building is as important as its exterior. The careful identification and evaluation of interior architectural elements, after undertaking research on the building's history and use, is critically important before changes to the building are contemplated. Only after this evaluation should new uses be decided and plans be drawn up. The best rehabilitation is one that preserves and protects those rooms, sequences of spaces, features and finishes that define and shape the overall historic character of the building.

Selected Reading List

There are few books written exclusively on preserving historic interiors, and most of these tend to focus on residential interiors. Articles on the subject appear regularly in *The Old-House Journal*, the *Bulletin of the Association for Preservation Technology*, and *Historic Preservation Magazine*.

Ferro, Maximilian L., and Melissa L. Cook. *Electric Wiring and Lighting in Historic American Buildings*. New Bedford, Massachusetts: AFC/A Nortek Company, 1984.

Fisher, Charles E. "Temporary Protection of Historic Stairways During Rehabilitation Work." *Preservation Tech Note*. Washington, D.C.: Preservation Assistance Division, National Park Service, U.S. Department of the Interior, 1985.

Jennings, Jan, and Herbert Gottfried. *American Vernacular Interior Architecture 1870-1940*. New York: Van Nostrand Reinhold Company, 1988.

Johnson, Ed. *Old House Woodwork Restoration: How to Restore Doors, Windows, Walls, Stairs and Decorative Trim to Their Original Beauty*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1983.

Labine, Clem, and Carolyn Flaherty (editors). *The Old-House Journal Compendium*. Woodstock, New York: The Overlook Press, 1980.

The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Washington, D.C.: Preservation Assistance Division, National Park Service, U.S. Department of the Interior, rev. 1983.

U.S. Department of Housing and Urban Development. *Rehabilitation Guidelines, volume 111*. Washington, D.C.: U.S. Department of Housing and Urban Development, 1980-84.

Winkler, Gail Caskey, and Roger W. Moss. *Victorian Interior Decoration: American Interiors 1830-1900*. New York: Henry Holt and Company, 1986.

Acknowledgements

This Preservation Brief is based on a discussion paper prepared by the author for a National Park Service regional workshop held in March, 1987, and on a paper written by Gary Hume, "Interior Spaces in Historic Buildings," October, 1987. Appreciation is extended to the staff of Technical Preservation Services Branch and to the staff of NPS regional offices who reviewed the manuscript and provided many useful suggestions.

Washington, D.C. October, 1988

**Home page logo: Detail of carving on interior shutter. Hammond-Harwood House, Annapolis, Maryland.
Photo: NPS files.**

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

[Order Brief](#) | [Technical Preservation Services](#) | [Preservation Briefs](#) | [Search](#) | [Questions/Answers](#)

KDW

32 Preservation Briefs

Technical Preservation Services

National Park Service
U.S. Department of the Interior

Making Historic Properties Accessible

Thomas C. Jester and Sharon C. Park, AIA

- » [Planning Accessibility Modifications](#)
- » [Review the Historical Significance](#)
- » [Assess Existing and Required Accessibility](#)
- » [Identify and Evaluate Accessibility Options](#)
- » [Accessibility Solutions](#)
- » [The Building Site](#)
- » [Considering a New Entrance](#)
- » [Moving Through Historic Interiors](#)
- » [Building Amenities](#)
- » [Federal Accessibility Laws](#)
- » [Conclusion](#)
- » [Additional Reading](#)



A NOTE TO OUR USERS: The web versions of the **Preservation Briefs** differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

Historically, most buildings and landscapes were not designed to be readily accessible for people with disabilities. In recent years, however, emphasis has been placed on preserving historically significant properties, and on making these properties—and the activities within them—more accessible to people with disabilities. With the passage of the Americans with Disabilities Act in 1990, access to properties open to the public is now a civil right.



A significant entrance may be difficult to modify. Although a special challenge, sensitive changes can almost always be made to provide access while preserving the unique historic character. Photo: NPS files.

This Preservation Brief introduces the complex issue of providing accessibility at historic properties, and underscores the need to balance accessibility and historic preservation. It provides guidance on making historic properties accessible while preserving their historic character; the Brief also provides examples to show that independent physical accessibility at historic properties can be achieved with careful planning, consultation, and sensitive design. While the Brief focuses primarily on making buildings and their sites accessible, it also includes a section on historic landscapes. The Brief will assist historic property owners, design professionals, and administrators in evaluating their historic properties so that the highest level of accessibility can be provided while minimizing changes to historic materials and features. Because many projects encompassing accessibility work are complex, it is advisable to consult with experts in the

fields of historic preservation and accessibility before proceeding with permanent physical changes to historic properties.

Modifications to historic properties to increase accessibility may be as simple as a small,

inexpensive ramp to overcome one entrance step, or may involve changes to exterior and interior features. The Brief does not provide a detailed explanation of local or State accessibility laws as they vary from jurisdiction to jurisdiction. A concise explanation of several federal accessibility laws is included below.

Planning Accessibility Modifications

Historic properties are distinguished by features, materials, spaces, and spatial relationships that contribute to their historic character. Often these elements, such as steep terrain, monumental steps, narrow or heavy doors, decorative ornamental hardware, and narrow pathways and corridors, pose barriers to persons with disabilities, particularly to wheelchair users.

A three-step approach is recommended to identify and implement accessibility modifications that will protect the integrity and historic character of historic properties:

- 1) Review the historical significance of the property and identify character-defining features; 2) Assess the property's existing and required level of accessibility; and 3) Evaluate accessibility options within a preservation context.

1) Review the Historical Significance of the Property

If the property has been designated as historic (properties that are listed in, or eligible for listing in the National Register of Historic Places, or designated under State or local law), the property's nomination file should be reviewed to learn about its significance. Local preservation commissions and State Historic Preservation Offices can usually provide copies of the nomination file and are also resources for additional information and assistance. Review of the written documentation should always be supplemented with a physical investigation to identify which character defining features and spaces must be protected whenever any changes are anticipated. If the level of documentation for a property's significance is limited, it may be necessary to have a preservation professional identify specific historic features, materials, and spaces that should be protected.



This accessibility ramp is compatible with the historic building in scale and materials. Photo: William Smith.

For most historic properties, the construction materials, the form and style of the property, the principal elevations, the major architectural or landscape features, and the principal public spaces constitute some of the elements that should be preserved. Every effort should be made to minimize damage to the materials and features that convey a property's historical significance when making modifications for accessibility. Very small or highly significant properties that have never been altered may be extremely difficult to modify.

Secondary spaces and finishes and features that may be less important to the historic character should also be identified; these may generally be altered without jeopardizing the historical significance of a property. Nonsignificant spaces, secondary pathways, later additions, previously altered areas, utilitarian spaces, and service areas can usually be modified without threatening or destroying a property's historical significance.

2) Assess the Property's Existing and Required Level of Accessibility

A building survey or assessment will provide a thorough evaluation of a property's

accessibility. Most surveys identify accessibility barriers in the following areas: building and site entrances; surface textures, widths and slopes of walkways; parking; grade changes; size, weight and configuration of doorways; interior corridors and path of travel restrictions; elevators; and public toilets and amenities. Simple audits can be completed by property owners using readily available checklists (See Further Reading). Accessibility specialists can be hired to assess barriers in more complex properties, especially those with multiple buildings, steep terrain, or interpretive programs. Persons with disabilities can be particularly helpful in assessing specific barriers.

All applicable accessibility requirements--local codes, State codes and federal laws--should be reviewed carefully before undertaking any accessibility modification. Since many States and localities have their own accessibility regulations and codes (each with their own requirements for dimensions and technical requirements), owners should use the most stringent accessibility requirements when implementing modifications. The Americans with Disability Act Accessibility Guidelines (ADAAG) is the document that should be consulted when complying with the Americans with Disabilities Act (ADA) requirements.

3) Identify and Evaluate Accessibility Options within a Preservation Context

Once a property's significant materials and features have been identified, and existing and required levels of accessibility have been established, solutions can be developed. Solutions should provide the greatest amount of accessibility without threatening or destroying those materials and features that make a property significant. Modifications may usually be phased over time as funds are available, and interim solutions can be considered until more permanent solutions are implemented. A team comprised of persons with disabilities, accessibility and historic preservation professionals, and building inspectors should be consulted as accessibility solutions are developed.

Modifications to improve accessibility should generally be based on the following priorities:

- 1) Making the main or a prominent public entrance and primary public spaces accessible, including a path to the entrance;
- 2) Providing access to goods, services, and programs;
- 3) Providing accessible restroom facilities; and,
- 4) Creating access to amenities and secondary spaces.



The ramp's scale and materials are inconsistent with the historic character of the building. Photo: NPS files.

All proposed changes should be evaluated for conformance with the Secretary of the Interior's "Standards for the Treatment of Historic Properties," which were created for property owners to guide preservation work. These Standards stress the importance of retaining and protecting the materials and features that convey a property's historical significance. Thus, when new features are incorporated for accessibility, historic materials and features should be retained whenever possible. Accessibility modifications should be in scale with the historic property, visually compatible, and, whenever possible, reversible. Reversible means that if the new feature were removed at a later date, the essential form and integrity of the property would be unimpaired. The design of new features should also be differentiated from the design of the historic property so that the evolution of the property is evident.

In general, when historic properties are altered, they should be made as accessible as possible. However, if an owner or a project team believes that certain modifications would threaten or destroy the significance of the property, the State Historic Preservation Officer should be consulted to determine

whether or not any special accessibility provisions may be used. Special accessibility provisions for historic properties will vary depending on the applicable accessibility requirements.

In some cases, programmatic access may be the only option for extremely small or unaltered historic properties, such as a two-story house museum with no internal elevator. Programmatic access for historic properties refers to alternative methods of providing services, information, and experiences when physical access cannot be provided. It may mean offering an audio-visual program showing an inaccessible upper floor of a historic house museum, providing interpretive panels from a vista at an inaccessible terraced garden, or creating a tactile model of a historic monument for people with visual impairments.

Accessibility Solutions

The goal in selecting appropriate solutions for specific historic properties is to provide a high level of accessibility without compromising significant features **or** the overall character of the property. The following sections describe accessibility solutions and offer guidance on specific historic property components, namely the building site, entrances, interiors, landscapes, amenities, and new additions. Several solutions are discussed in each section, referencing dimensions and technical requirements from the ADA's accessibility guidelines, ADAAG. State and local requirements, however, may differ from the ADA requirements. Before making any modification owners should be aware of all applicable accessibility requirements.

The Building Site

An accessible route from a parking lot, sidewalk, and public street to the entrance of a historic building or facility is essential. An accessible route, to the maximum extent possible, should be the circulation route used by the general public. Critical elements of accessible routes are their widths, slopes, cross slopes, and surface texture. Each of these route elements must be appropriately designed so that the route can be used by



The significant building site is now accessible to people with disabilities (note steps in front of ramp). Photo: NPS files.

everyone, including people with disabilities. The distance between the arrival and destination points should also be as short as possible. Sites containing designed landscapes should be carefully evaluated before making accessibility modifications. Historic landscapes are described in greater detail below.

Providing Convenient Parking. If parking is provided, it should be as convenient as possible for people with disabilities. Specially designated parking can often be created to improve accessibility. Modifications to parking configurations and pathways should not alter significant landscape features.

Creating an Accessible Route. The route or path through a site to a historic building's entrance should be wide enough, generally at least 3 feet (91 cm), to accommodate visitors with disabilities and must be appropriately graded with a stable, firm, and slip-resistant surface. Existing paths should be modified to meet these requirements whenever possible as long as doing so would not threaten or destroy significant materials and features.

Existing surfaces can often be stabilized by providing a new base and resetting the

paving materials, or by modifying the path surface. In some situations it may be appropriate to create a new path through an inaccessible area. At large properties, it may be possible to regrade a slope to less than 1:20 (5%), or to introduce one or more carefully planned ramps. Clear directional signs should mark the path from arrival to destination.

Entrances

Whenever possible, access to historic buildings should be through a primary public entrance. In historic buildings, if this cannot be achieved without permanent damage to character-defining features, at least one entrance used by the public should be made accessible. If the accessible entrance is not the primary public entrance, directional signs should direct visitors to the accessible entrance. A rear or service entrance should be avoided as the only mean of entering a building.



The historic threshold was made accessible with a 1/2" wood bevel. Photo: NPS files.

Creating an accessible entrance usually involves overcoming a change in elevation. Steps, landings, doors, and thresholds, all part of the entrance, often pose barriers for persons with disabilities. To preserve the integrity of these features, a number of solutions are available to increase accessibility. Typical solutions include regrading, incorporating ramps, installing wheelchair lifts, creating new entrances, and modifying doors, hardware, and thresholds.

Regrading an Entrance. In some cases, when the entrance steps and landscape features are not highly significant, it may be possible to regrade to provide a smooth entrance into a building. If the existing steps are historic masonry, they should be buried, whenever possible, and not removed.

Incorporating Ramps.

Permanent ramps are perhaps the most common means to make an entrance accessible.

As a new feature, ramps should be carefully designed and appropriately located to preserve a property's historic character.

Ramps should be located at public entrances used by everyone whenever possible, preferably where there is minimal change in grade. Ramps should also be located to minimize the loss of historic features at the connection points—porch railings, steps, and windows—and should preserve the overall historic setting and character of the property. Larger buildings may have below grade areas that can accommodate a ramp down to an entrance. Below grade entrances can be considered if the ramp leads to a publicly used interior, such as an auditorium, or if the building is serviced by a public elevator. Ramps can often be incorporated behind historic features, such as cheek-walls or railings, to minimize the visual effect.

The steepest allowable slope for a ramp is usually 1:12 (8%), but gentler slopes should be used whenever possible to accommodate people with limited strength. Greater changes in elevation require larger and longer ramps to meet accessibility scoping provisions and may require an intermediate landing. Most codes allow a slightly steeper ramp for historic buildings to overcome one step.

Ramps can be faced with a variety of materials, including wood, brick, and stone. Often



A new elevator entrance was provided next to the stairs to provide universal access to the services inside. Photo: Courtesy, GSA.

the type and quality of the materials determines how compatible a ramp design will be with a historic property. Unpainted pressure-treated wood should not be used to construct ramps because it usually appears temporary and is not visually compatible with most historic properties.

Railings should be simple in design, distinguishable from other historic features, and should extend one foot beyond the sloped area.

Ramp landings must be large enough for wheelchair users, usually at least 5 feet by 5 feet (152.5 cm by 152.5 cm), and the top landing must be at the level of the door threshold. It may be possible to reset steps by creating a ramp to accommodate minor level changes and to meet the threshold without significantly altering a property's historic character. If a building's existing landing is not wide or deep enough to accommodate a ramp, it may be necessary to modify the entry to create a wider landing. Long ramps, such as switchbacks, require intermediate landings, and all ramps should be detailed with an appropriate edge and railing for wheelchair users and visually impaired individuals.

Temporary or portable ramps are usually constructed of light-weight materials and, thus, are rarely safe or visually compatible with historic properties. Moreover, portable ramps are often stored until needed and, therefore, do not meet accessibility requirements for independent access. Temporary and portable ramps, however, may be an acceptable interim solution to improve accessibility until a permanent solution can be implemented.

Installing Wheelchair Lifts. Platform lifts and inclined stair lifts, both of which accommodate only one person, can be used to overcome changes of elevation ranging from three to 10 feet (.9 m-3 m) in height. However, many States have restrictions on the use of wheelchair lifts, so all applicable codes should be reviewed carefully before installing one. Inclined stair lifts, which carry a wheelchair on a platform up a flight of stairs, may be employed selectively. They tend to be visually intrusive, although they are relatively reversible. Platform lifts can be used when there is inadequate space for a ramp. However, such lifts should be installed in unobtrusive locations and under cover to minimize maintenance if at all possible. A similar, but more expensive platform lift has a retracting railing that lowers into the ground, minimizing the visual effect to historic properties. Mechanical lifts have drawbacks at historic properties with high public visitation because their capacity is limited, they sometimes cannot be operated independently, and they require frequent maintenance.

Considering a New Entrance. When it is not possible to modify an existing entrance, it may be possible to develop a new entrance by creating an entirely new opening in an appropriate location, or by using a secondary window for an opening. This solution should only be considered after exhausting all possibilities for modifying existing entrances.

Retrofitting Doors. Historic doors generally should not be replaced, nor should door frames on the primary elevation be widened, as this may alter an important feature of a historic design. However, if a building's historic doors have been removed, there may be greater latitude in designing a compatible new entrance. Most accessibility standards require at least a 32" (82 cm) clear opening with manageable door opening pressures. The most desirable preservation solution to improve accessibility is retaining historic doors and upgrading the door pressure with one of several devices. Automatic door openers (operated by push buttons, mats, or electronic eyes) and power-assisted door openers can eliminate or reduce door pressures that are accessibility barriers, and make single or double-leaf doors fully operational.

Adapting Door Hardware. If a door opening is within an inch or two of meeting the 32" (81 cm) clear opening requirement, it may be possible to replace the standard hinges with off-set hinges to increase the size of the door opening as much as 1 ½" (3.8 cm). Historic hardware can be retained in place, or adapted with the addition of an



automatic opener, of which there are several types. Door hardware can also be retrofitted to reduce door pressures. For example, friction hinges can be retrofitted with ball-bearing inserts, and door closers can be rethreaded to reduce the door pressure.

Altering Door Thresholds. A door threshold that exceeds the allowable height, generally ½" (1.3 cm), can be altered or removed with one that meets applicable accessibility requirements. If the threshold is deemed to be significant, a bevel can be added on each side to reduce its height. Another solution is to replace the threshold with one that meets applicable accessibility requirements and is visually compatible with the historic entrance.



This door handle has been retrofitted to meet ADA requirements. Photo: NPS files.

Readily Achievable Accessibility Options

Many accessibility solutions can be implemented easily and inexpensively without destroying the significance of historic properties. While it may not be possible to undertake all of the modifications listed below, each change will improve accessibility.

Sites and Entrances

- Creating a designated parking space.
- Installing ramps.
- Making curb cuts.

Interiors

- Repositioning shelves.
- Rearranging tables, displays, and furniture.
- Repositioning telephones.
- Adding raised markings on elevator control buttons.
- Installing flashing alarm lights.
- Installing offset hinges to widen doorways.
- Installing or adding accessible door hardware.
- Adding an accessible water fountain, or providing a paper cup dispenser at an inaccessible water fountain.

Restrooms

- Installing grab bars in toilet stalls.
- Rearranging toilet partitions to increase maneuvering space.
- Insulating lavatory pipes under sinks to prevent burns.
- Installing a higher toilet seat.
- Installing a full-length bathroom mirror.
- Repositioning the paper towel dispenser.

Moving Through Historic Interiors

Persons with disabilities should have independent access to all public areas and facilities inside historic buildings. The extent to which a historic interior can be modified depends on the significance of its materials, plan, spaces, features, and finishes. Primary spaces are often more difficult to modify without changing their character. Secondary spaces may generally be changed without compromising a building's historic character. Signs should clearly mark the route to accessible restrooms, telephones, and other accessible areas.

Installing Ramps and Wheelchair Lifts. If space permits, ramps and wheelchair lifts can also be used to increase accessibility inside buildings. However, some States and localities restrict interior uses of wheelchair lifts for life-safety reasons. Care should be taken to install these new features where they can be readily accessed. Ramps and wheelchair lifts are described below.



A retractable lift for this historic building foyer was created using "like" materials. Photo: NPS files.

Upgrading Elevators. Elevators are an efficient means of providing accessibility between floors. Some buildings have existing historic elevators that are not adequately accessible for persons with disabilities because of their size, location, or detailing, but they may also contribute to the historical significance of a building. Significant historic elevators can usually be upgraded to improve accessibility. Control panels can be modified with a "wand" on a cord to make the control panel accessible, and timing devices can usually be adjusted.

Retrofitting Door Knobs. Historic door knobs and other hardware may be difficult to grip and turn. In recent years, lever-handles have been developed to replace door knobs. Other lever-handle devices can be added to existing hardware. If it is not possible or appropriate to retrofit existing door knobs, doors can be left open during operating hours (unless doing so would violate life safety codes), and power-assisted door openers can be installed. It may only be necessary to retrofit specific doorknobs to create an accessible path of travel and accessible restrooms.

Modifying Interior Stairs. Stairs are the primary barriers for many people with disabilities. However, there are some ways to modify stairs to assist people who are able to navigate them. It may be appropriate to add hand railings if none exist. Railings should be 1 ¼" (3.8 cm) in diameter and return to the wall so straps and bags do not catch. Color-contrasting, slip-resistant strips will help people with visual impairments. Finally, beveled or closed risers are recommended unless the stairs are highly significant, because open risers catch feet.

Building Amenities

Some amenities in historic buildings, such as restrooms, seating, telephones, drinking fountains, counters, may contribute to a building's historic character. They will often require modification to improve their use by persons with disabilities. In many cases, supplementing existing amenities, rather than changing or removing them, will increase access and minimize changes to historic features and materials.

Upgrading Restrooms. Restrooms may have historic fixtures such as sinks, urinals, or marble partitions that can be retained in the process of making modifications. For example, larger restrooms can sometimes be reconfigured by relocating or combining partitions to create an accessible toilet stall. Other changes to consider are adding grab bars around toilets, covering hot water pipes under sinks with insulation to prevent burns, and providing a sink, mirror, and paper dispenser at a height suitable for wheelchair users. A unisex restroom may be created if it is technically infeasible to create

two fully accessible restrooms, or if doing so would threaten or destroy the significance of the building. It is important to remember that restroom fixtures, such as sinks, urinals, and partitions, may be historic, and therefore, should be preserved whenever possible.

Modifying Other Amenities. Other amenities inside historic buildings may require modification. Seating in a theater, for example, can be made accessible by removing some seats in several areas. New seating that is accessible can also be added at the end of existing rows, either with or without a level floor surface. Readily removable seats may be installed in wheelchair spaces when the spaces are not required to accommodate wheelchair users. Historic water fountains can be retained and new, two-tiered fountains installed if space permits. If public telephones are provided, it may be necessary to install at least a Text Telephone (TT), also known as a Telecommunication Device for the Deaf (TDD). Historic service counters commonly found in banks, theaters, and hotels generally should not be altered. It is preferable to add an accessible counter on the end of a historic counter if feasible. Modified or new counters should not exceed 36" (91.5 cm) in height.

Making Historic Landscapes Accessible

To successfully incorporate access into historic landscapes, the planning process is similar to that of other historic properties. Careful research and inventory should be undertaken to determine which materials and features convey the landscape's historical significance. As part of this evaluation, those features that are character-defining (topographical variation, vegetation, circulation, structures, furnishings, objects) should be identified. Historic finishes, details, and materials that also contribute to a landscape's significance should also be documented and evaluated prior to determining an approach to landscape accessibility. For example, aspects of the pedestrian circulation system that need to be understood include walk width, aggregate size, pavement pattern, texture, relief, and joint details. The context of the walk should be understood including its edges and surrounding area. Modifications to surface textures or widths of pathways can often be made with minimal effect on significant landscape features.

Additionally, areas of secondary importance such as altered paths should be identified—especially those where the accessibility modifications will not destroy a landscape's significance. By identifying those features that are contributing or non-contributing, a sympathetic circulation experience can then be developed.

After assessing a landscape's integrity, accessibility solutions can be considered. Full access throughout a historic landscape may not always be possible. Generally, it is easier to provide accessibility to larger, more open sites where there is a greater variety of public experiences. However, when a landscape is uniformly steep, it may only be possible to make discrete portions of a historic landscape accessible, and viewers may only be able to experience the landscape from selected vantage points along a prescribed pedestrian or vehicular access route. When defining such a route, the interpretive value of the user experience should be considered; in other words, does the route provide physical or visual access to those areas that are critical to understand the meaning of the landscape?

Considering a New Addition as an Accessibility Solution

Many new additions are constructed specifically to incorporate modern amenities such as elevators, restrooms, fire stairs, and new mechanical equipment. These new additions often create opportunities to incorporate access for people with disabilities. It may be possible, for example, to create an accessible entrance, path to public levels via a ramp, lift, or elevator. However, a new addition has the potential to change a historic property's appearance and destroy significant building and landscape features. Thus, all new additions should be compatible with the size, scale, and proportions of historic features and materials that characterize a property.

New additions should be carefully located to minimize connection points with the historic building, such that if the addition were to be removed in the future, the essential form and integrity of the building would remain intact. On the other hand, new additions should also be conveniently located near parking that is connected to an accessible route for people with disabilities. As new additions are incorporated, care should be taken to protect significant landscape features and archeological resources. Finally, the design for any new addition should be differentiated from the historic design so that the property's evolution over time is clear. New additions frequently make it possible to increase accessibility, while simultaneously reducing the level of change to historic features, materials, and spaces.

Federal Accessibility Laws



The automatic door to this museum building is a practical solution for universal entry.
Photo: NPS files.

Today, few building owners are exempt from providing accessibility for people with disabilities. Before making any accessibility modification, it is imperative to determine which laws and codes are applicable. In addition to local and State accessibility codes, the following federal accessibility laws are currently in effect:

Architectural Barriers Act (1968)

The Architectural Barriers Act stipulates that all buildings designed, constructed, and altered by the Federal Government, or with federal assistance, must be accessible. Changes made to federal buildings must meet the Uniform Federal Accessibility Standards (UFAS). Special provisions are included in UFAS for historic buildings that would be threatened or destroyed by meeting full accessibility requirements.

Rehabilitation Act (1973)

The Rehabilitation Act requires recipients of federal financial assistance to make their programs and activities accessible to everyone. Recipients are allowed to make their properties accessible by altering their building, by moving programs and activities to accessible spaces, or by making other accommodations.

Americans with Disabilities Act (1990)

Historic properties are not exempt from the Americans with Disabilities Act (ADA) requirements. To the greatest extent possible, historic buildings must be as accessible as non-historic buildings. However, it may not be possible for some historic properties to meet the general accessibility requirements.

Under Title II of the ADA, State and local governments must remove accessibility barriers either by shifting services and programs to accessible buildings, or by making alterations to existing buildings. For instance, a licensing office may be moved from a second floor to an accessible first floor space, or if this is not feasible, a mail service might be provided. However, State and local government facilities that have historic preservation as their main purpose-State-owned historic museums, historic State capitols that offer tours-must give priority to physical accessibility.

Under Title III of the ADA, owners of "public accommodations" (theaters, restaurants, retail shops, private museums) must make "readily achievable" changes; that is, changes that can be easily accomplished without much expense. This might mean installing a

ramp, creating accessible parking, adding grab bars in bathrooms, or modifying door hardware. The requirement to remove barriers when it is "readily achievable" is an ongoing responsibility. When alterations, including restoration and rehabilitation work, are made, specific accessibility requirements are triggered.

Recognizing the national interest in preserving historic properties, Congress established alternative requirements for properties that cannot be made accessible without "threatening or destroying" their significance. A consultation process is outlined in the ADA's Accessibility Guidelines for owners of historic properties who believe that making specific accessibility modifications would "threaten or destroy" the significance of their property. In these situations, after consulting with persons with disabilities and disability organizations, building owners should contact the State Historic Preservation Officer (SHPO) to determine if the special accessibility provisions for historic properties may be used. Further, if it is determined in consultation with the SHPO that compliance with the minimum requirements would also "threaten or destroy" the significance of the property, alternative methods of access, such as home delivery and audio-visual programs, may be used.

Conclusion

Historic properties are irreplaceable and require special care to ensure their preservation for future generations. With the passage of the Americans with Disabilities Act, access to historic properties open to the public is a now civil right, and owners of historic properties must evaluate existing

buildings and determine how they can be made more accessible. It is a challenge to evaluate properties thoroughly, to identify the applicable accessibility requirements, to explore alternatives and to implement solutions that provide independent access and are consistent with accepted historic preservation standards. Solutions for accessibility should not destroy a property's

significant materials, features and spaces, but should increase accessibility as much as possible. Most historic buildings are not exempt from providing accessibility, and with careful planning, historic properties can be made more accessible, so that all citizens can enjoy our Nation's diverse heritage.

Additional Reading

Ballantyne, Duncan S. and Harold Russell Associates, Inc. *Accommodation of Disabled Visitors at Historic Sites in the National Park System*. Washington, D.C.: Park Historic Architecture Division, National Park Service, U.S. Department of the Interior, 1983.

Goldman, Nancy. Ed. *Readily Achievable Checklist: A Survey for Accessibility*. Boston: Adaptive Environments Center, 1993.

Hayward, Judith L. and Thomas C. Jester, compilers. *Accessibility and Historic Preservation Resource Guide*. Windsor, Vermont: Historic Windsor, Inc., 1992, revised 1993.

Jester, Thomas C. *Preserving the Past and Making it Accessible for People with Disabilities*. Washington, D.C.: Preservation Assistance Division, National Park Service, U.S. Department of the Interior, 1992.

Parrott, Charles. *Access to Historic Buildings for the Disabled*. Washington, D.C.: U.S. Department of the Interior, 1980.

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

Washington, D.C.: Preservation Assistance Division, National Park Service, U.S. Department of the Interior, 1993.

Smith, William D. and Tara Goodwin Frier. Access to History: A Guide to Providing Access to Historic Buildings for People with Disabilities. Boston: Massachusetts Historical Commission, 1989.

Standards for Accessible Design: ADA Accessibility Guidelines (ADAAG). Washington, D.C.: U.S. Department of Justice, 1991.

Acknowledgements

Thomas C. Jester is an Architectural Historian with the Preservation Assistance Division of the National Park Service. Sharon C. Park, AIA, is the Senior Historical Architect with the Preservation Assistance Division, National Park Service.

The authors wish to thank Charles A. Birnbaum, ASLA, Historical Landscape Architect with the Preservation Assistance Division, National Park Service, for contributing the section on historic landscapes. The authors gratefully acknowledge the invaluable comments made by the following individuals who reviewed the draft manuscript: William Smith, Massachusetts Historical Commission; Kay Weeks, H. Ward Jandl, Michael Auer, and Charles A. Birnbaum, Preservation Assistance Division, National Park Service; Clare Adams, New York Department of Parks, Recreation and Historic Preservation; Lauren Bowlin, Maryland Historical Trust; Tom Mayes, National Trust for Historic Preservation; Elizabeth Igleheart, Maine Historic Preservation Commission; Milford Wayne Donaldson, FAIA; Paul Beatty, U.S. Architectural and Transportation Barriers Compliance Board; Mid-Atlantic Regional Office, National Park Service; Western Regional Office, National Park Service.

Washington, D.C. September, 1993

Home page logo: Accessible historic building. Photo: NPS files.

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

[Order Brief](#) | [Technical Preservation Services](#) | [Preservation Briefs](#) | [Search](#) | [Questions/Answers](#)

KDW

36 Preservation Briefs

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



Protecting Cultural Landscapes Planning, Treatment and Management of Historic Landscapes

Charles A. Birnbaum, ASLA

- » [Developing a Strategy and Seeking Assistance](#)
- » [Preservation Planning for Cultural Landscapes](#)
- » [Developing a Historic Preservation Approach and Treatment Plan](#)
- » [Developing a Preservation Maintenance Plan and Implementation Strategy](#)
- » [Recording Treatment Work and Future Research Recommendations](#)
- » [Summary](#)
- » [Selected Reading](#)



A NOTE TO OUR USERS: The web versions of the **Preservation Briefs** differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

Cultural landscapes can range from thousands of acres of rural tracts of land to a small homestead with a front yard of less than one acre. Like historic buildings and districts, these special places reveal aspects of our country's origins and development through their form and features and the ways they were used. Cultural landscapes also reveal much about our evolving relationship with the natural world.



Patterns on the land have been preserved through the continuation of traditional uses, such as the grape fields at the Sterling Vineyards in Calistoga, California. Photo: NPS files.

A **cultural landscape** is defined as "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, not mutually exclusive: *historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes*. These are defined below.

Historic landscapes include residential gardens and community parks, scenic highways, rural communities, institutional grounds, cemeteries, battlefields and zoological gardens. They are composed of a number of character-defining features which, individually or collectively

contribute to the landscape's physical appearance as they have evolved over time. In addition to vegetation and topography, cultural landscapes may include water features, such as ponds, streams, and fountains; circulation features, such as roads, paths, steps, and walls; buildings; and furnishings, including fences, benches, lights and sculptural objects.

Most historic properties have a cultural landscape component that is integral to the

significance of the resource. Imagine a residential district without sidewalks, lawns and trees or a plantation with buildings but no adjacent lands. A historic property consists of all its cultural resources--landscapes, buildings, archeological sites and collections. In some cultural landscapes, there may be a total absence of buildings.

This Preservation Brief provides preservation professionals, cultural resource managers, and historic property owners a step-by-step process for preserving **historic designed** and **vernacular landscapes**, two types of cultural landscapes. While this process is ideally applied to an entire landscape, it can address a single feature, such as a perennial garden, family burial plot, or a sentinel oak in an open meadow. This Brief provides a framework and guidance for undertaking projects to ensure a successful balance between historic preservation and change.

DEFINITIONS

Historic Designed Landscape--a landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, or horticulturist according to design principles, or an amateur gardener working in a recognized style or tradition. The landscape may be associated with a significant person(s), trend, or event in landscape architecture; or illustrate an important development in the theory and practice of landscape architecture. Aesthetic values play a significant role in designed landscapes. Examples include parks, campuses, and estates.

Historic Vernacular Landscape--a landscape that evolved through use by the people whose activities or occupancy shaped that landscape. Through social or cultural attitudes of an individual, family or a community, the landscape reflects the physical, biological, and cultural character of those everyday lives. Function plays a significant role in vernacular landscapes. They can be a single property such as a farm or a collection of properties such as a district of historic farms along a river valley. Examples include rural villages, industrial complexes, and agricultural landscapes.

Historic Site--a landscape significant for its association with a historic event, activity, or person. Examples include battlefields and president's house properties.

Ethnographic Landscape--a landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples are contemporary settlements, religious sacred sites and massive geological structures. Small plant communities, animals, subsistence and ceremonial grounds are often components.

Developing a Strategy and Seeking Assistance

Nearly all designed and vernacular landscapes evolve from, or are often dependent on, natural resources. It is these interconnected systems of land, air and water, vegetation and wildlife which have dynamic qualities that differentiate cultural landscapes from other cultural resources, such as historic structures. Thus, their documentation, treatment, and ongoing management require a comprehensive, multi-disciplinary approach.

Today, those involved in preservation planning and management of cultural landscapes represent a broad array of academic backgrounds, training, and related project experience. Professionals may have expertise in landscape architecture, history, landscape archeology, forestry, agriculture, horticulture, pomology, pollen analysis, planning, architecture, engineering (civil, structural, mechanical, traffic), cultural geography, wildlife, ecology, ethnography, interpretation, material and



object conservation, landscape maintenance and management. Historians and historic preservation professionals can bring expertise in the history of the landscape, architecture, art, industry, agriculture, society and other subjects. Landscape preservation teams, including on-site management teams and independent consultants, are often directed by a landscape architect with specific expertise in landscape preservation. It is highly recommended that disciplines relevant to the landscapes' inherent features be represented as well.

The "Boot Fence," near D.H. Lawrence Ranch, Questa, California, is an example of a character-defining landscape feature. Photo: Courtesy, Cheryl Wagner.



Another example of a very different landscape feature is this tree planting detail for Jefferson Memorial Park, St. Louis, Missouri. Photo: Courtesy, Dan Kiley.

Additional guidance may be obtained from State Historic Preservation Offices, local preservation commissions, the National Park Service, local and state park agencies, national and state chapters of the American Society of Landscape Architects, the Alliance for Historic Landscape Preservation, the National Association of Olmsted Parks, and the Catalog of Landscape Records in the United States at Wave Hill, among others.

A range of issues may need to be addressed when considering how a particular cultural landscape should be treated. This may include the in-kind replacement of declining vegetation, reproduction of furnishings, rehabilitation of

structures, accessibility provisions for people with disabilities, or the treatment of industrial properties that are rehabilitated for new uses.

Preservation Planning for Cultural Landscapes

Careful planning prior to undertaking work can help prevent irrevocable damage to a cultural landscape. Professional techniques for identifying, documenting, evaluating and preserving cultural landscapes have advanced during the past 25 years and are continually being refined. Preservation planning generally involves the following steps: historical research; inventory and documentation of existing conditions; site analysis and evaluation of integrity and significance; development of a cultural landscape preservation approach and treatment plan; development of a cultural landscape management plan and management philosophy; the development of a strategy for ongoing maintenance; and preparation of a record of treatment and future research recommendations.

The steps in this process are not independent of each other, nor are they always sequential. In fact, information gathered in one step may lead to a re-examination or refinement of previous steps. For example, field inventory and historical research are likely to occur simultaneously, and may reveal unnoticed cultural resources that should be protected.

The treatment and management of cultural landscape should also be considered in concert with the management of an entire historic property. As a result, many other studies may be relevant. They include management plans, interpretive plans, exhibit design, historic structures reports, and other.

These steps can result in several products including a Cultural Landscape Report (also known as a Historic Landscape Report), statements for management, interpretive guide, maintenance guide and maintenance records.

CULTURAL LANDSCAPE REPORTS

A Cultural Landscape Report (CLR) is the primary report that documents the history, significance and treatment of a cultural landscape. A CLR evaluates the history and integrity of the landscape including any changes to its geographical context, features, materials, and use.

CLWs are often prepared when a change (e.g. a new visitor's center or parking area to a landscape) is proposed. In such instances, a CLR can be a useful tool to protect the landscape's character-defining features from undue wear, alteration or loss. A CLR can provide managers, curators and others with information needed to make management decisions.

A CLR will often yield new information about a landscape's historic significance and integrity, even for those already listed on the National Register. Where appropriate, National Register files should be amended to reflect the new findings.

Historical Research

Research is essential before undertaking any treatment. Findings will help identify a landscape's historic period(s) of ownership, occupancy and development, and bring greater understanding of the associations and characteristics that make the landscape or history significant. Research findings provide a foundation to make educated decisions for work, and can also facilitate ongoing maintenance and management operations, interpretation and eventual compliance requirements.

A variety of primary and secondary sources may be consulted. Primary archival sources can include historic plans, surveys, plats, tax maps, atlases, U. S. Geological Survey maps, soil profiles, aerial photographs, photographs, stereoscopic views, glass lantern slides, postcards, engravings, paintings, newspapers, journals, construction drawings, specifications, plant lists, nursery catalogs, household records, account books and personal correspondence. Secondary sources include monographs, published histories, theses, National Register forms, survey data, local preservation plans, state contexts and scholarly articles.

Contemporary documentary resources should also be consulted. This may include recent studies, plans, surveys, aerial and infrared photographs, Soil Conservation Service soil maps, inventories, investigations and interviews. Oral histories of residents, managers, and maintenance personnel with a long tenure or historical association can be valuable sources of information about changes to a landscape over many years. For properties listed in the National Register, nomination forms should be consulted.

Preparing Period Plans

In the case of designed landscapes, even though a historic design plan exists, it does not necessarily mean that it was realized fully, or even in part. Based on a review of the archival resources outlined above, and the extant landscape today, an *as-built period plan* may be delineated. For all successive tenures of ownership, occupancy and landscape change, *period plans* should be generated. Period plans can document to the greatest extent possible the historic appearance during a particular period of ownership, occupancy, or development. Period plans should be based on primary archival sources and should avoid conjecture. Features that are based on secondary or less accurate sources should be graphically differentiated. Ideally, all referenced archival sources should be annotated and footnoted directly on *period plans*.

Where historical data is missing, period plans should reflect any gaps in the CLR narrative text and these limitations considered in future treatment decisions.

Inventorying and Documenting Existing Conditions

Both physical evidence in the landscape and historic documentation guide the historic preservation plan and treatments. To document existing conditions, intensive field investigation and reconnaissance should be conducted at the same time that documentary research is being gathered. Information should be exchanged among preservation professionals, historians, technicians, local residents, managers and visitors.



Understanding the geographic context should be part of the inventory process. This aerial photograph at Rancho Los Alamitos, Long Beach, CA, was taken in 1936. (See, below.) Photo: Rancho Los Alamitos Foundation.

To assist in the survey process, National Register Bulletins have been published by the National Park Service to aid in identifying, nominating and evaluating designed and rural historic landscapes. Additionally, Bulletins are available for specific landscape types such as battlefields, mining sites, and cemeteries.

Although there are several ways to inventory and document a landscape, the goal is to create a baseline from a detailed record of the landscape and its features as they exist at the present (considering seasonal variations). Each landscape inventory should address issues of boundary delineation, documentation methodologies and techniques, the limitations of the inventory, and the scope of inventory efforts.



This present-day view of Rancho Los Alamitos shows present-day encroachments and adjacent developments that will affect the future treatment of visual and spatial relationships. Photo: Rancho Los Alamitos Foundation.

These are most often influenced by the timetable, budget, project scope, and the purpose of the inventory and, depending on the physical qualities of the property, its scale, detail, and the inter-relationship between natural and cultural resources. For example,

inventory objectives to develop a treatment plan may differ considerably compared to those needed to develop an ongoing maintenance plan. Once the criteria for a landscape inventory are developed and tested, the methodology should be explained.

Preparing Existing Condition Plans

Inventory and documentation may be recorded in plans, sections, photographs, aerial photographs, axonometric perspectives, narratives, video-or any combination of techniques. Existing conditions should generally be documented to scale, drawn by hand or generated by computer. The scale of the drawings is often determined by the size and complexity of the landscape. Some landscapes may require documentation at more than one scale. For example, a large estate may be documented at a small scale to depict its spatial and visual relationships, while the discrete area around an estate mansion may require a larger scale to illustrate individual plant materials, pavement patterns and other

details. The same may apply to an entire rural historic district and a fenced vegetable garden contained within.

When landscapes are documented in photographs, *registration points* can be set to indicate the precise location and orientation of features. Registration points should correspond to significant forms, features and spatial relationships within the landscape and its surrounds. The points may also correspond to historic views to illustrate the change in the landscape today. These locations may also be used as a management tool to document the landscape's evolution, and to ensure that its character-defining features are preserved over time through informed maintenance operations and later treatment and management decisions.

All features that contribute to the landscape's historic character should be recorded. These include the physical features described above (e.g. topography, circulation), and the visual and spatial relationships that are character defining. The identification of existing plants, should be specific, including genus, species, common name, age (if known) and size. The woody, and if appropriate, herbaceous plant material should be accurately located on the existing conditions map. To ensure full representation of successional herbaceous plants, care should be taken to document the landscape in different seasons, if possible.

Treating living plant materials as a curatorial collection has also been undertaken at some cultural landscapes. This process, either done manually or by computer, can track the condition and maintenance operations on individual plants. Some sites, such as the Frederick Law Olmsted National Historic Site, in Brookline, Massachusetts have developed a field investigation numbering system to track all woody plants. Due to concern for the preservation of genetic diversity and the need to replace significant plant materials, a number of properties are beginning to propagate historically important rare plants that are no longer commercially available, unique, or possess significant historic associations. Such herbarium collections become a part of a site's natural history collection.

Once the research and the documentation of existing conditions have been completed, a foundation is in place to analyze the landscape's continuity and change, determine its significance, assess its integrity, and place it within the historic context of similar landscapes.

READING THE LANDSCAPE

A noted geographer, Pierce Lewis, stated, "The attempt to derive meaning from landscapes possesses overwhelming virtue. It keeps us constantly alert to the world around us, demanding that we pay attention not just to some of the things around us but to all of them--the whole visible world in all of its rich, glorious, messy, confusing, ugly, and beautiful complexity."

Landscapes can be read on many levels--landscape as nature, habitat, artifact, system, problem, wealth, ideology, history, place and aesthetic. When developing a strategy to document a cultural landscape, it is important to attempt to read the landscape in its context of place and time.

Reading the landscape, like engaging in archival research, requires a knowledge of the resource and subject area as well as a willingness to be skeptical. As with archival research, it may involve serendipitous discoveries. Evidence gained from reading the landscape may confirm or contradict other findings and may encourage the observer and the historian to re-visit both primary and secondary sources with a fresh outlook. Landscape investigation may also stimulate other forms of research and survey, such as oral histories or archeological investigations, to supplement what appeared on-site.

There are many ways to read a landscape-whatever approach is taken should provide a

broad overview. This may be achieved by combining on-the-ground observations with a bird's-eye perspective. To begin this process, aerial photographs should be reviewed to gain an orientation to the landscape and its setting. Aerial photographs come in different sizes and scales, and can thus portray different levels of detail in the landscape. Aerial photographs taken at a high altitude, for example, may help to reveal remnant field patterns or traces of an abandoned circulation system; or, portions of axial relationships that were part of the original design, since obscured by encroaching woodland areas. Low altitude aerial photographs can point out individual features such as the arrangement of shrub and herbaceous borders, and the exact locations of furnishings, lighting, and fence alignments. This knowledge can prove beneficial before an on-site visit.

Aerial photographs provide clues that can help orient the viewer to the landscape. The next step may be to view the landscape from a high point such as a knoll or an upper floor window. Such a vantage point may provide an excellent transition before physically entering the cultural landscape.

On ground, evidence should then be studied, including character-defining features, visual and spatial relationships. By reviewing supporting materials from historic research, individual features can be understood in a systematic fashion that show the continuum that exists on the ground today. By classifying these features and relationships, the landscape can be understood as an artifact, possessing evidence of evolving natural systems and human interventions over time.

For example, the on-site investigation of an abandoned turn-of-the-century farm complex reveals the remnant of a native oak and pine forest which was cut and burned in the mid-nineteenth century. This previous use is confirmed by a small stand of mature oaks and the presence of these plants in the emerging secondary woodland growth that is overtaking this farm complex in decline. A ring count of the trees can establish a more accurate age. By *reading* other character-defining features, such as the traces of old roads, remnant hedgerows, ornamental trees along boundary roads, foundation plantings, the terracing of grades and remnant fences--the visual, spatial and contextual relationships of the property as it existed a century ago may be understood and its present condition and integrity evaluated.

The findings of on-site reconnaissance, such as materials uncovered during archival research, may be considered primary data. These findings make it possible to inventory and evaluate the landscape's features in the context of the property's current condition. Character-defining features are located *in situ*, in relationship to each other and the greater cultural and geographic contexts.

Historic Plant Inventory

Within cultural landscapes, plants may have historical or botanical significance. A plant may have been associated with a historic figure or event or be part of a notable landscape design. A plant may be an uncommon cultivar, exceptional in size, age, rare and commercially/unavailable. If such plants are lost, there would be a loss of historic integrity and biological diversity of the cultural landscape. To ensure that significant plants are preserved, an inventory of historic plants is being conducted at the North Atlantic Region of the National Park Service. Historical landscape architects work with landscape managers and historians to gather oral and documented history on the plant's origin and potential significance. Each plant is then examined in the field by an expert horticulturist who records its name, condition, age, size, distribution, and any notable botanic characteristics.

Plants that are difficult to identify or are of potential historical significance are further examined in the laboratory by a plant taxonomist who compares leaf, fruit, and flower characteristics with herbarium specimens for named species, cultivars and varieties. For plants species with many cultivars, such as apples, roses, and grapes, specimens may be

sent to specialists for identification.

If a plant cannot be identified, is dying or in decline, and unavailable from commercial nurseries, it may be propagated. Propagation ensures that when rare and significant plants decline, they can be replaced with genetically-identical plants. Cuttings are propagated and grown to replacement size in a North Atlantic Region Historic Plant Nursery.

Site Analysis: Evaluating Integrity and Significance

By analyzing the landscape, its change over time can be understood. This may be accomplished by overlaying the various period plans with the existing conditions plan. Based on these findings, individual features may be attributed to the particular period when they were introduced, and the various periods when they were present.

It is during this step that the *historic significance* of the landscape component of a historic property and its integrity are determined. Historic significance is the recognized importance a property displays when it has been evaluated, including when it has been found to meet National Register Criteria. A landscape may have several areas of historical significance. An understanding of the landscape as a continuum through history is critical in assessing its cultural and historic value. In order for the landscape to have integrity, these character-defining features or qualities that contribute to its significance must be present.



The landscape of Lyndhurst, Tarrytown, New York, is significant in American culture and work of a master gardener, Ferdinand Mangold.
Photo: National Trust for Historic Preservation.

While National Register nominations document the significance and integrity of historic properties, in general, they may not acknowledge the significance of the landscape's design or historic land uses, and may not contain an inventory of landscape features or characteristics. Additional research is often necessary to provide the detailed information about a landscape's evolution and significance useful in making decision for the treatment and maintenance of a historic landscape. Existing National Register forms may be amended to recognize additional areas of significance and to include more complete descriptions of historic properties that have significant land areas and landscape features.

Integrity is a property's historic identity evidenced by the survival of physical characteristics from the property's historic or pre-historic period. The seven qualities of integrity are location, setting, feeling, association, design, workmanship and materials. When evaluating these qualities, care should be taken to consider change itself. For example, when a second-generation woodland overtakes an open pasture in a battlefield landscape, or a woodland edge encloses a scenic vista. For situations such as these, the reversibility and/or compatibility of those features should be considered, both individually, and in the context of the overall landscape. Together, evaluations of significance and integrity, when combined with historic research, documentation of existing conditions, and analysis findings, influence later treatment and interpretation decisions.

Developing a Historic Preservation Approach and Treatment Plan

Treatment may be defined as work carried out to achieve a historic preservation goal--it cannot be considered in a vacuum. There are many practical and philosophical factors

that may influence the selection of a treatment for a landscape. These include the relative historic value of the property, the level of historic documentation, existing physical conditions, its historic significance and integrity, historic and proposed use (e.g. educational, interpretive, passive, active public, institutional or private), long-and short-term objectives, operational and code requirements (e.g. accessibility, fire, security) and costs for anticipated capital improvement, staffing and maintenance. The value of any significant archeological and natural resources should also be considered in the decision-making process. Therefore, a cultural landscape's preservation plan and the treatment selected will consider a broad array of dynamic and inter-related considerations. It will often take the form of a plan with detailed guidelines or specifications.

TREATMENTS FOR CULTURAL LANDSCAPES

Prior to undertaking work on a landscape, a treatment plan or similar document should be developed. The four primary treatments identified in the Secretary of the Interior's Standards for the Treatment of Historic Properties, are:

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

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 or cultural values.

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

Adopting such a plan, in concert with a preservation maintenance plan, acknowledges a cultural landscape's ever-changing existence and the inter-relationship of treatment and ongoing maintenance. Performance standards, scheduling and record keeping of maintenance activities on a day-to-day or month-to-month basis, may then be planned for. Treatment, management, and maintenance proposals can be developed by a broad range of professionals and with expertise in such fields as landscape preservation, horticulture, ecology, and landscape maintenance.

The selection of a primary treatment for the landscape, utilizing the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, establishes an overall historic preservation approach, as well as a philosophical framework from which to operate. Selecting a treatment is based on many factors. They include management and interpretation



objectives for the property as a whole, the period(s) of significance, integrity, and condition of individual landscape features.

For all treatments, the landscape's existing conditions and its ability to convey historic significance should be carefully considered. For example, the life work, design philosophy and extant legacy of an individual designer should all be understood for a designed landscape, such as an estate, prior to treatment selection. For a vernacular landscape, such as a battlefield containing a largely intact mid-nineteenth century family farm, the uniqueness of that agrarian complex within a local, regional, state, and national context should be considered in selecting a treatment.



When the American Elm was plagued with Dutch Elm Disease, many historic properties relied on the Japanese Zelkova as a substitute plant (see below). Photo: NPS files.

The overall historic preservation approach and treatment approach can ensure the proper retention, care, and repair of landscapes and their inherent features. In short, the Standards act as a preservation and management tool for cultural landscapes. The four potential treatments are described above.



Compared to the American Elm (above right), it is readily apparent that the form and scale of this tree is really quite different, and would be an inappropriate substitute plant material within a restoration or reconstruction project. Photo: NPS files.

Landscape treatments can range from simple, inexpensive preservation actions, to complex major restoration or reconstruction projects. The progressive framework is inverse in proportion to the retention of historic features and materials. Generally, preservation involves the least change, and is the most respectful of historic materials. It maintains the form and material of the existing landscape. Rehabilitation usually accommodates contemporary alterations or additions without altering significant historic features or materials, with successful projects involving minor to major change. Restoration or reconstruction attempts to recapture the appearance of a property, or an individual feature at a particular point in time, as confirmed by detailed historic documentation. These last two treatments most often require the greatest degree of intervention and thus, the highest level of documentation.

In all cases, treatment should be executed at the appropriate level, reflecting the condition of the landscape, with repair work identifiable upon close inspection and/or indicated in supplemental interpretative information. When repairing or replacing a feature, every effort should be made to achieve visual and physical compatibility. Historic materials should be matched in design, scale, color and texture.

A landscape with a high level of integrity and authenticity may suggest preservation as the primary treatment. Such a treatment may emphasize protection, stabilization, cyclical maintenance, and repair of character-defining landscape features. Changes over time that are part of the landscape's continuum and are significant in their own right may be retained, while changes that are not significant, yet do not encroach upon or erode character may also be maintained. Preservation entails the essential operations to safeguard existing resources.

Rehabilitation is often selected in response to a contemporary use or need--ideally such an approach is compatible with the landscape's historic character and historic use. Rehabilitation may preserve existing fabric along with introducing some compatible changes, new additions and alterations. Rehabilitation may be desirable at a private residence in a historic district where the homeowner's goal is to develop an



appropriate landscape treatment for a front yard, or in a public park where a support area is needed for its maintenance operations.

When the most important goal is to portray a landscape at an exact period of time, restoration is selected as the primary treatment. Unlike preservation and rehabilitation, interpreting the landscape's continuum or evolution is not the objective. Restoration may include the removal of features from other periods and/or the construction of missing or lost features and materials from the reconstruction period. In all cases, treatment should be substantiated by the historic research findings and existing conditions documentation. Restoration and re-construction treatment work should avoid the creation of a landscape whose features did not exist historically. For example, if features from an earlier period did not co-exist with extant features from a later period that are being retained, their restoration would not be appropriate.



The historic birch alley at Stan Hywet Hall, Akron, Ohio, which had suffered from borer infestation and leaf miner, was preserved through a series of carefully executed steps that took 15 years to realize. Photo: Child Associates.

In rare cases, when evidence is sufficient to avoid conjecture, and no other property exists that can adequately explain a certain period of history, reconstruction may be utilized to depict a vanished landscape. The accuracy of this work is critical. In cases where topography and the sub-surface of soil have not been disturbed, research and existing conditions findings may be confirmed by thorough archeological investigations. Here too, those features that are intact should be repaired as necessary, retaining the original historic features to the greatest extent possible. The greatest danger in reconstruction is creating a false picture of history.

False historicism in every treatment should be avoided. This applies to individual features as well as the entire landscape. Examples of inappropriate work include the introduction of historic-looking benches that are actually a new design, a fanciful gazebo placed in what was once an open meadow, executing an unrealized historic design, or designing a historic-looking landscape for a relocated historic structure within "restoration."

LANDSCAPE INTERPRETATION

Landscape interpretation is the process of providing the visitor with tools to experience the landscape as it existed during its period of significance, or as it evolved to its present state. These tools may vary widely, from a focus on existing features to the addition of interpretive elements. These could include exhibits, self-guided brochures, or a new representation of a lost feature. The nature of the cultural landscape, especially its level of significance, integrity, and the type of visitation anticipated may frame the interpretive approach. Landscape interpretation may be closely linked to the integrity and condition of the landscape, and therefore, its ability to convey the historic character and character-defining features of the past. If a landscape has high integrity, the interpretive approach may be to direct visitors to surviving historic features without introducing obtrusive interpretive devices, such as free-standing signs. For landscapes with a diminished integrity, where limited or no fabric remains, the interpretive emphasis may be on using extant features and visual aids (e.g., markers, photographs, etc.) to help visitors visualize the resource as it existed in the past. The primary goal in these situations is to educate the visitor about the landscape's historic themes, associations and lost character-defining features or broader historical, social and physical landscape contexts.

Developing a Preservation Maintenance Plan and Implementation Strategy

Throughout the preservation planning process, it is important to ensure that existing landscape features are retained. Preservation maintenance is the practice of monitoring and controlling change in the landscape to ensure that its historic integrity is not altered and features are not lost. This is particularly important during the research and long-term treatment planning process. To be effective, the maintenance program must have a guiding philosophy, approach or strategy; an understanding of preservation maintenance techniques; and a system for documenting changes in the landscape.



Central Park has developed an in-house historic preservation crew to undertake small projects. A specialized crew has been trained to repair and rebuild rustic furnishings. Photo: Central Park Conservancy.

The philosophical approach to maintenance should coincide with the landscape's current stage in the preservation planning process. A Cultural Landscape Report and Treatment Plan can take several years to complete, yet during this time managers and property owners will likely need to address immediate issues related to the decline, wear, decay, or damage of landscape features. Therefore, initial maintenance operations may focus on the stabilization and protection of all landscape features to provide temporary, often emergency measures to prevent deterioration, failure, or loss, without altering the site's existing character.

After a Treatment Plan is implemented, the approach to preservation maintenance may be modified to reflect the objectives defined by this plan. The detailed specifications prepared in the Treatment Plan relating to the retention, repair, removal, or replacement of features in the landscape should guide and inform a comprehensive preservation maintenance program. This would include schedules for monitoring and routine maintenance, appropriate preservation maintenance procedures, as well as ongoing record keeping of work performed. For vegetation, the preservation maintenance program would also include thresholds for growth or change in character, appropriate pruning methods, propagation and replacement procedures.

To facilitate operations, a property may be divided into discrete management zones. These zones are sometimes defined during the Cultural Landscape Report process and are typically based on historically defined areas. Alternatively, zones created for maintenance practices and priorities could be used. Examples of maintenance zones would include woodlands, lawns, meadow, specimen trees, and hedges.

Training of maintenance staff in preservation maintenance skills is essential. Preservation maintenance practices differ from standard maintenance practices because of the focus on perpetuating the historic character or use of the landscape rather than beautification. For example, introducing new varieties of turf, roses or trees is likely to be inappropriate. Substantial earth moving (or movement of soil) may be inappropriate where there are potential archeological resources. An old hedge or shrub should be rejuvenated, or propagated, rather than removed and replaced. A mature specimen tree may require cabling and careful monitoring to ensure that it is not a threat to visitor safety. Through training programs and with the assistance of preservation maintenance specialists, each property could develop maintenance specifications for the care of landscape features.

Because landscapes change through the seasons, specifications for ongoing preservation maintenance should be organized in a calendar format. During each season or month, the calendar can be referenced to determine when, where, and how preservation maintenance is needed. For example, for some trees structural pruning is best done in the late winter while other trees are best pruned in the late summer. Serious pests are monitored at specific times of the year, in certain stages of their life cycle. This detailed calendar will, in turn, identify staff needs and work priorities.

Depending on the level of sophistication desired, one approach to documenting

maintenance data and recording change over time is to use a computerized geographical or visual information system. Such a system would have the capability to include plans and photographs that would focus on a site's landscape features.

If a computer is not available, a manual or notebook can be developed to organize and store important information. This approach allows managers to start at any level of detail and to begin to collect and organize information about landscape features. The value of these maintenance records cannot be overstated. These records will be used in the future by historians to understand how the landscape has evolved with the ongoing care of the maintenance staff.

Recording Treatment Work and Future Research Recommendations

The last and ongoing step in the preservation planning process records the treatment work as carried out. It may include a series of as-built drawings, supporting photographic materials, specifications and a summary assessment. New technologies that have been successfully used should be highlighted. Ideally, this information should be shared with interested national organizations for further dissemination and evaluation.

The need for further research or additional activities should also be documented. This may include site-specific or contextual historical research, archeological investigations, pollen analysis, search for rare or unusual plant materials, or, material testing for future applications.

Finally, in consultation with a conservator or archivist-to maximize the benefit of project work and to minimize the potential of data loss--all primary documents should be organized and preserved as archival materials. This may include field notes, maps, drawings, photographs, material samples, oral histories and other relevant information.

DEVELOPING A PRESERVATION MAINTENANCE GUIDE

In the past, there was rarely adequate record-keeping to fully understand the ways a landscape was maintained. This creates gaps in our research findings. Today, we recognize that planning for ongoing maintenance and onsite applications should be documented--both routinely and comprehensively. An annual work program or calendar records the frequency of maintenance work on built or natural landscape features. It can also monitor the age, health and vigor of vegetation. For example, onsite assessments may document the presence of weeds, pests, dead leaves, pale color, wilting, soil compaction--all of which signal particular maintenance needs. For built elements, the deterioration of paving or drainage systems may be noted and the need for repair or replacement indicated before hazards develop. An overall maintenance program can assist in routine and cyclic maintenance of the landscape and can also guide long term treatment projects.

To help structure a comprehensive maintenance operation that is responsive to staff, budget, and maintenance priorities, the National Park Service has developed two computer-driven programs for its own landscape resources. A Maintenance Management Program (MM) is designed to assist maintenance managers in their efforts to plan, organize, and direct the park maintenance system. An Inventory and Condition Assessment Program (ICAP) is designed to complement MM by providing a system for inventorying, assessing conditions, and for providing corrective work recommendations for all site features.

Another approach to documenting maintenance and recording changes over time is to develop a manual or computerized graphic information system. Such a system should have the capability to include plans and photographs that would record a site's living collection of plant materials. (Also see discussion of the use of photography under

Preparing Existing Conditions Plans) This may be achieved using a computer-aided drafting program along with an integrated database management system.

To guide immediate and ongoing maintenance, a systematic and flexible approach has been developed by the Olmsted Center for Landscape Preservation. Working with National Park Service landscape managers and maintenance specialists, staff assemble information and make recommendations for the care of individual landscape features.

Each landscape feature is inspected in the field to document existing conditions and identify field work needed. Recommendations include maintenance procedures that are sensitive to the integrity of the landscape.

Summary

The planning, treatment, and maintenance of cultural landscapes requires a multi-disciplinary approach. In landscapes, such as parks and playgrounds, battlefields, cemeteries, village greens, and agricultural land preserves more than any other type of historic resource--communities rightly presume a sense of stewardship. It is often this grass roots commitment that has been a catalyst for current research and planning initiatives. Individual residential properties often do not require the same level of public outreach, yet a systematic planning process will assist in making educated treatment, management and maintenance decisions.

Wise stewardship protects the character, and or spirit of a place by recognizing history as change over time. Often, this also involves our own respectful changes through treatment. The potential benefits from the preservation of cultural landscapes are enormous. Landscapes provide scenic, economic, ecological, social, recreational and educational opportunities that help us understand ourselves as individuals, communities and as a nation. Their ongoing preservation can yield an improved quality of life for all, and, above all, a sense of place or identity for future generations.

Selected Reading

Birnbaum, Charles A., guest editor. *Preservation Forum*. "Focus on Landscape Preservation". Washington, D.C.: National Trust for Historic Preservation, Volume 7, No. 3, May/June 1992.

Buggey Susan, guest editor. *APT Bulletin. Special Issue: Conserving Historic Landscapes*. Fredericksburg, VA: Association for Preservation Technology International, Volume XXIV, No. 3-4, 1992.

Burns, John A, and the Staff of HABS/HAER. *Recording Historic Structures*. American Institute of Architects Press, 1989. (Includes chapter on the documentation of Meridian Hill Park, pp. 206-219.)

Diehl, Janet and Thomas S. Barrett, et al. *The Conservation Easement Handbook. Managing Land Conservation and Historic Preservation Easement Programs*, The Land Trust Exchange (now Alliance) and the Trust for Public Land, 1988.

International Committee of Historic Gardens and Sites, ICOMOS-IFLA. *Jardins et Sites Historiques*, Scientific Journal. ICOMOS 1993. Compilation of papers on the subject, in both English and French.

Kelso, William M., and Rachel Most. *Earth Patterns: Essays in Landscape Archaeology*. Charlottesville, VA. University Press of Virginia, 1990.

Stokes, Samuel, N., et al. *Saving America's Countryside: A Guide to Rural Conservation*. Baltimore and London: John Hopkins University Press, 1989.

Tishler, William, editor. *American Landscape Architecture: Designers and Places*. Washington, DC: The Preservation Press, 1989.

Acknowledgements

The author, Charles A. Birnbaum, Coordinator, Historic Landscape Initiative, Preservation Assistance Division, National Park Service would like to acknowledge the assistance of H. Ward Jandl and Kay Weeks. The Olmsted Center for Landscape Preservation at the Frederick Law Olmsted National Historic Site including Margie Coffin, Lauren Meier, Nora Mitchell, and Charlie Pepper provided invaluable support. In particular, the proposed rewrite on Preservation Maintenance and historic plant materials was written by Margie Coffin. Significant contributions were also made by Patricia M. O'Donnell, Linda McClelland, Ellen Lipsey, Christine Capella Peters, Robert Page, Ian Firth and Robert Melnick. Useful comments and technical assistance were provided by regional NPS staff (Mary Hughes, Lucy Lawliss, Jill Cowley, Sherda Williams, Michael Crowe, Robbyn Jackson) and staff at the Preservation Assistance Division (Cheryl Wagner, Michael Auer and Anne Grimmer).

Washington, D.C. September, 1994

Home page logo: Taro fields in Hanalei, Hawaii. Photo: NPS files.

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

[Order Brief](#) | [Technical Preservation Services](#) | [Preservation Briefs](#) | [Search](#) | [Questions/Answers](#)

KDW

APPENDIX D

Chapter 3

EVALUATION FOR CONSERVATION

3.1 SUMMARY

The modern concept of cultural heritage is related to the whole built environment, and should be seen in the ecological context of the world; within this context, the sites on the World Heritage List are distinguished for their outstanding universal value. Conservation policies should be based on a critical process starting with the survey, documentation, and definition of the intrinsic cultural resource, and the values related to it. These values may be divided into two groups: cultural values and contemporary economic values.

The conservation of cultural heritage is a cultural problem. Restoration is not a recipe, but depends on an appropriate understanding of the values contained in the heritage resource. Decisions related to the treatment of World Heritage sites must be based on balanced judgement with due consideration of the objectives of the Convention as a priority. The policy of conservation involves making interventions at various scales and levels of intensity; these are determined by the physical condition, causes of deterioration and anticipated future environment of the cultural resource under treatment. Each case must be considered as a whole, and individually, taking all factors into account. The final aim and the principles of conservation and restoration must be kept in mind; generally the minimum effective intervention has proved to be the best policy.

3.2 WHAT IS CULTURAL HERITAGE TODAY?

The present-day concept of cultural heritage is a result of the process related to the development of contemporary society, its values and its requirements. In the past, attention was given mainly to particular works of art or to major monuments. Massive destruction caused by the world wars and the major industrial development since the 1950s have made people realize that their lives are closely related to the environment in which they live and work. It provides the basis for their cultural identity and a mental and spiritual reference for a balanced quality of life.

- *The tendency today is to understand cultural heritage in its broadest sense as containing all the signs that document the activities and achievements of human beings over time.*

Since the Industrial Revolution the consciousness of the interdependence of man and nature has been steadily weakened. Although natural resources were exploited

– sometimes ruthlessly – in the pre-industrial era, people and the built environment were more dependent upon nature than they are today. In parallel with this, a new problem has been created by the explosive population increase in many countries and the worldwide trend of urbanization: the inconsiderate consumption of non-renewable resources (such as oil and minerals) and the lack of care for resources which are at least partly renewable (such as water, air and forests) have become an international concern.

- *Since physical cultural heritage is one of the world's most important non-renewable resources, a special effort is needed to redress the imbalance between our needs and its protection.*

Cultural heritage consists of different types of properties which relate to a variety of settings; they include not only important monuments, historic areas and gardens, but the man-made environment as a whole. Cultural heritage resources may be associated with different values depending on the context, and thus their treatment may differ from case to case.

- *The concepts related to the definition of the object, its values and its treatment should be clearly defined in order to avoid confusion in the intent.*

Characterization of cultural heritage, the values related to it and the consequent policy of protection and treatment are referred to in various international documents by Unesco, notably a series of Recommendations and Conventions. Recommendations provide guidance in the protection of specific types of heritage, such as archaeological sites, historic buildings and historic areas, whereas Conventions, such as the *World Heritage Convention*, are ratified by States Parties as legal instruments.

The most important international policy document is the *International Charter for the Conservation and Restoration of Monuments and Sites*, known as the Charter of Venice, which resulted from the *Second International [ICOMOS] Congress of Restoration*, held in Venice in 1964. This document (Appendix A of these *Management Guidelines*) has become a fundamental reference for conservation policies throughout the world.¹

1 For a list of Unesco Conventions and Recommendations, see Appendix B; the texts are published in: *Conventions and Recommendations of Unesco concerning the protection of the cultural heritage*, Unesco 1985. Concerning the *Venice Charter*, one may observe that it was written in 1964, during the period of extensive restorations and reconstructions after the damage of the Second World War. The specific problems of that time were emphasized, and less attention given to other concerns that are relevant today. Many attempts have since been made to improve the charter, and in fact numerous international, regional or national recommendations have been written with this purpose; these often refer to specific types of heritage or particular problems. The *Venice Charter*, however, continues to be valid as a proclamation of some of the basic principles.

3.2.1 What defines world cultural heritage ?

In 1972, the concern resulting from increased threats to cultural and natural heritage worldwide, and the desire to provide organized international support for the protection of World Heritage sites and values prompted the General Conference of Unesco to adopt a special *Convention Concerning the Protection of the World Cultural and Natural Heritage*.

The aim of this Convention is to protect sites that represent “outstanding universal value.” The World Heritage List, which was established and is maintained on the basis of this Convention, identifies sites in different States Parties that are recognized as resources of international significance, thus meriting special acknowledgement and protection. Together these exemplary resources represent the rich diversity of the world’s heritage and, as a consequence, they have important educational connotations.

For the purposes of the Convention, cultural heritage includes monuments, groups of buildings or sites, and these are defined as (Article 1):

- **monuments:** architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
- **groups of buildings:** groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science; or
- **sites:** works of man or the combined works of nature and of man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological points of view.

The basic requirement for the nomination of a site to the World Heritage List is that it represent outstanding universal value. The *Operational Guidelines* define this concept as it is applied to the nomination process, as was addressed in detail in Section 2.3 above.

3.3 WHAT IS PROTECTED IN A MONUMENT OR SITE ?

In the past, restoration theories have often emphasized specific types of treatment, but the conservation and the *mise-en-valeur* of cultural heritage should not be viewed simply as a series of recipes. Today, the concept of cultural heritage is understood in a much broader sense. Consequently, specific protection and conservation strategies are likely to vary considerably according to the context and

values associated with each monument or site. Nevertheless, general principles of good conservation practice can serve as a foundation for the identification and protection of heritage resources.

3.3.1 Critical Process

Restoration and conservation should be based on a clear definition of the heritage resource and its relationship to its setting. This definition is part of the critical process aimed at cultivating an appreciation of the heritage as an integral part of present-day society by developing a framework for assessing resource values, establishing management objectives, and preparing presentation and interpretation policies. This process has four distinct steps:

- **Survey:** methodical inspection, survey and documentation of the resource, its historical setting and its physical environment;
- **Definition:** critical-historical definition and assessment of the object and its setting, so giving it its significance;
- **Analysis:** scientific analysis and diagnosis of the material substance and associated structural system with a view towards its conservation; and
- **Strategy:** long-term and short-term programmes for conservation and management of change, including regular inspections, cyclic maintenance and environmental control.

3.3.2 Intrinsic values of a heritage resource

The intrinsic values of a cultural resource refer to the material, workmanship, design and the setting of the historic monument or site. The intrinsic cultural resource thus consists of what is physically a part of it and its environment. An historic resource, as a product of the past, has been subjected to degradation caused by natural weathering and functional use. In many cases, the resource has also undergone modifications of various kinds. These accumulated changes have themselves become part of its historical character and material substance. This material substance represents the intrinsic values of the cultural resource; it is the bearer of historical testimonies and of associated cultural values, both past and present.

- ☐ *The aim of conservation is to safeguard the quality and values of the resource, protect its material substance and ensure its integrity for future generations.*

3.3.3 Definition of the heritage resource

A heritage resource, particularly a work of art or a building but also a site, may be defined on the basis of specific concepts. It can therefore be conceived as a whole which is an assembly of component parts. This whole forms a potential unity through which each part can be described and defined in reference to the original

intention. One of the aims of the survey and critical-historical assessment of the object is to define the wholeness of the resource and the state of its potential unity. Above all else, integrity relates to the material completeness of the resource. The intrinsic **qualities** of a heritage resource refer to the quality of its materials, its workmanship, its design, its setting and its relationship to the setting.

Over time, the original heritage resource may be partly damaged, intentionally modified or even destroyed, causing its potential unity to be diminished or lost. On the other hand, an historic resource may, at different periods of its history, become part of a new whole, through which it is redefined as part of a new potential unity; such transformations are part of its historical stratigraphy. Treatments aimed at the restoration of a heritage resource should refer to this new potential unity and should therefore be carried out within the framework defined by it.

Historic areas and their surroundings require particularly careful study and consideration since individual monuments and historic buildings are only part of the larger ensemble of the heritage resource. The Unesco *Recommendation concerning Safeguarding and Contemporary Role of Historic Areas*, formulated in Nairobi in 1976, provides the following guideline (General Principles, II,2):

Every historic area and its surroundings should be considered in their totality as a coherent whole whose balance and specific nature depend on the fusion of the parts of which it is composed and which include human activities as much as the buildings, the spatial organization and the surroundings. All valid elements, including human activities, however modest, thus have a significance in relation to the whole which must not be disregarded.

The whole of historic areas should thus not be considered only in relation to an architectural framework; it should also include the human values related to its social and economic context. Of particular importance is also the question of historic parks and landscapes. Throughout history, in many countries, garden design has been very closely associated with architecture (e.g., China, England, France, India, Iran, Italy and Japan). It is important that, in defining the site, due attention be given to these features, requiring proper archaeological research, and knowledge of the history and principles of garden design, in order not to lose these important and often fragile features in a rehabilitation process. In recent years, much international attention has been given to historic parks and gardens, and their documentation; guidelines have been developed for their proper maintenance, conservation and restoration.²

2 The Institute of Advanced Architectural Studies (IoAAS) of the University of York, England, has established a centre for studies of historic parks and gardens, which has been recognized by ICCROM. Contact: Mr Peter Goodchild, IoAAS, University of York, The King's Manor, York YO1 2EP, United Kingdom.

Particularly since the 1980s, with the increased awareness of the importance of the relationship and interdependence of the built and the natural environment, the issue of protecting cultural landscapes has become significant in many countries, both in industrialized areas and in areas undergoing rapid development (where modern development often ignores the values of the existing ecological or traditional cultural context and the need to maintain existing resources). The question of defining criteria for the nomination of cultural landscapes to the World Heritage List has been under study, but whether or not these are implemented, there remains the urgent necessity to take due care not only of specific monuments or groups of buildings, but also to provide sufficient planning tools for the control and balanced development of their wider context.

3.3.4 Historical time line³

The relationship of a heritage resource, such as a work of art, an historic building or an historic town to time and history may be broken down into three phases:

- the first phase, which resulted in the **creation** of the object;
- the second phase, which extends from the end of the creation phase to the present time; and
- the third phase, which is associated with the perception of the monument in our consciousness at the **present time**.

This sequence of phases forms the **historical time line** of the resource. This historical time line is irreversible. It is a product of the specific cultural, social, economic and political conditions of the phases that contributed to its creation and evolution. This linkage with specific historic phases becomes a fundamental reference for the evaluation of an historic resource. Alois Riegl, an Austrian art historian and conservator, developed the concept of *Kunstwollen*⁴ in 1903 to express the fact that an object created at a given time both reflects the artistic trends of its period and contributes to these trends. A heritage resource that is substantially reconstructed today would become a product of the present.

- Since a heritage resource is **unique** in relation to historical time, it is **non-renewable**.

3.3.5 What is authenticity?

Authenticity is a crucial aspect in the assessment of heritage resources. Generally speaking, authenticity is ascribed to a heritage resource that is materially *original* or *genuine* (as it was constructed) and as it has aged and changed in time.⁵

³ This corresponds to the *tempo storico* in Brandi's writings.

⁴ See Riegl, 1903, and also Holly, 1984, in the bibliography.

⁵ The word *authentic* may be understood as *original*, *first hand* (as opposed to *copy*), or as *real*, *actual*, *genuine* (as opposed to *pretended*). *Shorter Oxford English Dictionary*.

Authenticity derives from the definition of the resource, and so authenticity may be understood in different ways depending on the context of its historical significance.

- *In the case of a heritage resource, its historical authenticity should generally reflect the significant phases of construction and utilization in different phases of its **historical time line**.*

Authenticity can be jeopardized by the destruction of historical strata, the modern replacement of original elements (particularly if based on conjecture) and the addition of new elements. A heritage resource that has passed the **test of authenticity** maintains its original integrity, as created or as it has evolved through its historical time line. According to the *Operational Guidelines*, four aspects of authenticity should be considered:

- authenticity in design,
- authenticity in materials,
- authenticity in workmanship, or
- authenticity in setting.

To be nominated to the World Heritage List, the heritage resource must maintain its integrity with respect to these four types of authenticity. If, for example, the original resource is destroyed, a copy would not meet the criteria since the material authenticity would be lost. Authenticity in materials is a primary criterion for authenticity in design and in workmanship, which, together with authenticity in setting, define the cultural heritage resource. On the other hand, at the same time, most historic resources are altered by the actions of nature and utilization; these changes are part of the **historical stratification** of the resource.

In addition, the concept of *Authenticity in the socio-cultural context* is one that urgently requires consideration.

3.4 WHAT VALUES INFLUENCE TREATMENTS?

Many values may be associated with heritage resources, and are generally extrinsic to the resource itself. Those that are deemed significant will provide justification for its protection and conservation. Such values range from historical to commercial, and a single resource may possess conflicting values that make management decisions especially difficult, and the value judgements may change over time.⁶

When dealing with World Heritage sites, considerations should include both

- cultural values, and
- contemporary socio-economic values.

6 Riegl, writing in 1903, was already analysing in detail the different values related to historic monuments at the beginning of the 20th century. (See bibliography)

The presence or absence of these values will lead to the safeguarding and preservation of cultural heritage resources or, in other instances, could lead to their neglect and destruction. For example, nationalistic or political values could provide a motivation for the protection and restoration of a resource, but these same values could cause the loss of resource that does not meet the prevailing political conception of significance.

3.4.1 Cultural values

Cultural values that are associated with heritage resources and their relationship to present-day observers are necessarily subjective (i.e., they depend on interpretations that reflect our time). These assessments will determine the degree of general interest in the object and in its setting, the interpretation of its intrinsic cultural character and the development of treatment policies. The recognition of **outstanding universal significance** in World Heritage sites and their resultant treatment should be defined on the basis of these assessments with respect to historic substance and archaeological potential.

The aim of the groupings given below is to help identify the various types of values that are often discussed, and to understand their relationship to the cultural resource, the site and its context. The question of appropriate treatment is further discussed in Chapter 8, *Treatments and Authenticity*.

Cultural values can be classified in a number of ways.

Identity value (based on recognition):

Values: This group of values is related to the emotional ties of society to specific objects or sites. It can include the following features: age, tradition, continuity, memorial, legendary; wonder, sentiment, spiritual, religious; and symbolic, political, patriotic and nationalistic.

Impact: Consisting often of emotional perceptions, this group of values has a strong impact on the safeguarding, conservation and restoration of the resource. While these values could strengthen the treatment of the resource, they could also cause over-restoration. At the same time, the lack of this identity could lead to neglect and destruction. These values can be promoted through education and training.

Relative artistic or technical value (based on research):

Values: This group of values is based on scientific and critical historical evaluations and assessments of the importance of the design of the heritage resource, and the significance of its technical, structural and functional concept and workmanship.

Impact: These values result from research carried out by professionals, with the intention of demonstrating the relative significance of the resource in relation to its own time, to other periods, and to the present. They provide a basis for classification and listing, as well as strategy for treatment.

Rarity value (based on statistics):

Values: This group of values relates the resource to other constructions of the same type, style, builder, period, region or some combination of these; they define the resource's rarity, representativeness or uniqueness.

Impact: This group of values is related to the two previous value groups, and influences the level of protection accorded to the resource. A high rarity value may reinforce the significance of the qualities that have outstanding universal value, and therefore strengthen the possibility of listing as a World Heritage site.

3.4.2 Contemporary socio-economic values

Use values are related to present-day society and its socio-economic and political infrastructures. The following categories have been identified:

Economic value:

Values: Since economics encourages the best allocation of resources to fit a wide range of needs, the economic value may not be restricted to a financial value. In terms of cultural heritage, economic value may be understood as a value generated by the heritage resource or by conservation action.

Impact: Economic values have four potential sources of revenue: tourism, commerce, use and amenities. The mismanagement of any one of these sources could lead to the undesirable development, or even the destruction, of the heritage resource; this is often the case when profit value is erroneously measured instead of using a more appropriate collective cost-benefit approach.

Functional value:

Values: Functional value is related to economic value, as it involves the continuity of the original type of function or the initiation of a compatible use of a building or an area. In a ruined structure, the original functional value is lost, but a new one has been found in serving programmatic requirements for resource interpretation, or as a venue for activities such as the visual and performing arts.

Impact: Continuity of traditional functions reinforces the meaning of sites in a manner that can never be accomplished by interpretative exhibits. An appropriate use will favour conservation; an inappropriate or ill-conceived adaptive use may cause degradation, undesirable changes or demolition.

Educational value:

Values: The educational value of a heritage resource includes its potential for cultural tourism, and the awareness of culture and history that it promotes as a means of integrating historic resources in present-day life.

Impact: The appropriate integration of World Heritage sites into educational programmes is essential. Emphasis on tourism, however, could lead to unjustified reconstructions or the destruction of original fabric, causing a loss of non-renewable archaeological evidence.

Social value:

Values: The social value of a heritage resource is related to traditional social activities and to compatible present-day use. It involves contemporary social interaction in the community, and plays a role in establishing social and cultural identity.

Impact: Social values can generate the concern for the local environment that leads to maintenance and repair of the fabric of a heritage resource; a lack of this social coherence and appreciation can handicap conservation. Such grass-roots interest has been the driving force behind the Civic Amenity movements.

Political value:

Values: Political value is often related to specific events in the history of the heritage resource with respect to its region or country. The present-day significance of the resource could be influenced by these events insofar as they coincide with the intentions of contemporary political priorities.

Impact: The political significance of a monument or site may assist in raising funds and drawing the attention of the general public to safeguarding and protection. On the other hand, ill-advised action may lead to undesired development and destruction of authenticity.

The above grouping of values should be considered as indicative, and may be compared with the values recognized in national or local assessments of heritage resources; they can also provide a useful framework and reference for a more detailed evaluation process.

Many of these values – particularly contemporary socio-economic values – can have both positive and negative impacts on the cultural resource, depending on the type of value and on the emphasis that is given to it in the overall assessment. It is therefore vital to make a clear statement of the values for which a particular cultural heritage resource has been nominated to the World Heritage List. These specific values and the question of the authenticity of the site are referred to in the evaluation document prepared by ICOMOS for the World Heritage Committee at the time of nomination. This document should always be available as a reference for the conservation managers of the site.

If the values for which the site has been nominated, particularly its “outstanding universal value,” are diminished or threatened, the site may be recommended for inscription to the List of World Heritage in Danger. This will also necessitate a request for technical assistance from the World Heritage Committee in order to support the efforts of the local authority in the management of necessary interventions.